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THE OIL WEEKLY

OIL & GAS ENGINEERING

News Statistics

October 30, 1931

ADVERTISERS' INDEX, LAST PAGE

EDITORIAL INDEX, PAGE 11

UNION Wire Lines Drill Deep in Ohio—

SHOWN above is a well in Sect. 26, Jefferson County, Ohio, with the 10" hole at 5000'. A 1" x 7000' UNION Drilling Line and a 9-16" x 6500' UNION Sand Line are in use on this well, which is being drilled by Blackburn and Blackburn for the Eastern Ohio Development Company (Benedum Trees) . . . The men, left to right, are: Oscar Blackburn, Contractor; F. A. Larimer, Jarecki Mfg. Co., Branch Manager; M. G. Brown; R. C. Hyde; F. A. Donaldson, Union Wire Rope Corp.; E. E. Blackburn, Contractor; and P. V. Kaine.

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UNION WIRE LINES

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GASO Walking Beam, Rodline and Piston Power PUMPS

Fig 604 Gaso Pump for Gas or Vacuum.

Fig. 601 Gaso Pump for Oil or Water

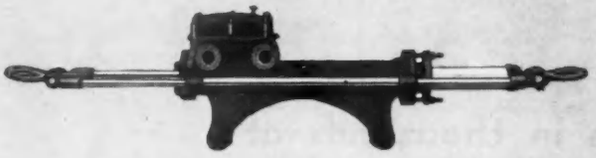

Fig. 201 Gaso Rodline Pump

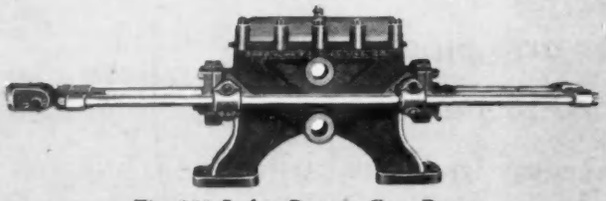

Fig. 301 Jerker Pattern Gaso Pump

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• • •

FIG. 201 RODLINE PUMP is a simple, easily operated and repaired pump for general service. Used in connection with the rod or shackle line between the power and the well, or connected to the power direct with a pitman.

FIG. 604 WALKING BEAM PUMP for Gas or Vacuum is connected to the walking beam with either pipe or wood pitman. Or Fig. 604½ (horizontal type) is connected to the power or surface rods. Built to stand hard usage. Give 26 to 28 points vacuum.

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FIG. 301 PISTON POWER PUMP (JERKER PATTERN) is widely used on high pressure main pipelines and is equally suitable for low pressure work, wherever a push and pull or crank power can be utilized. 750 to 300 pounds working pressure.

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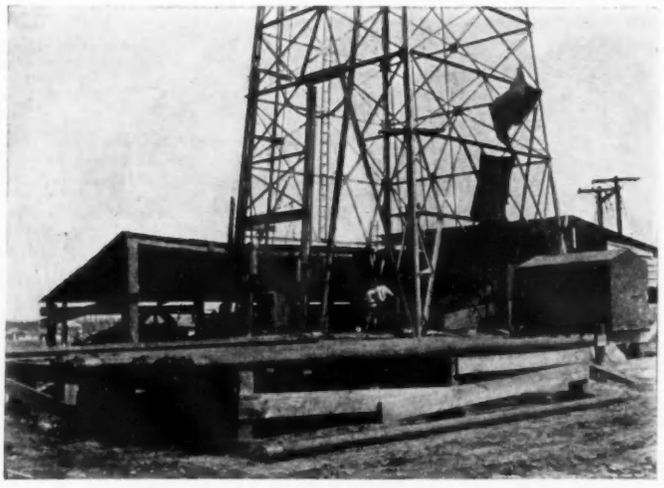

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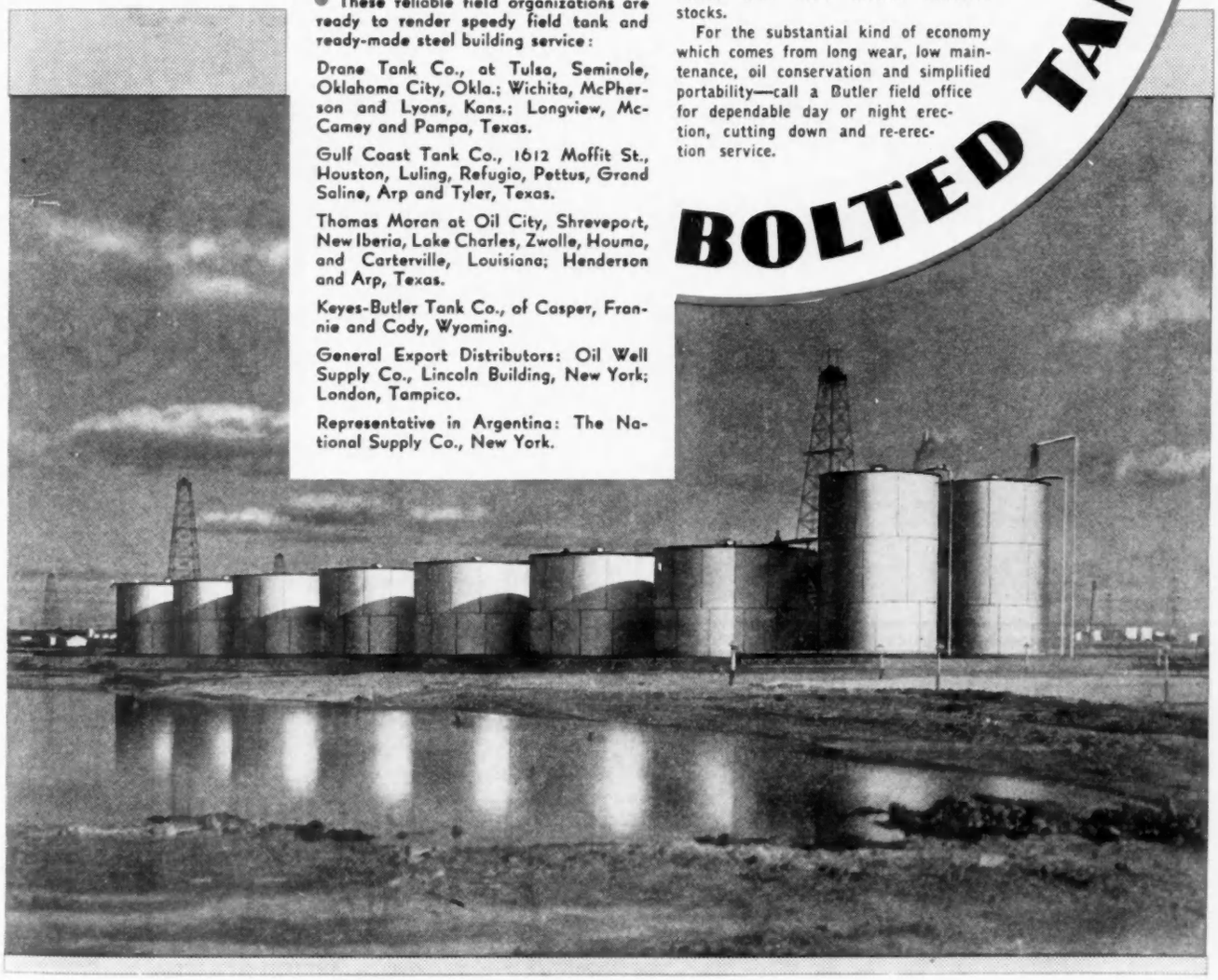

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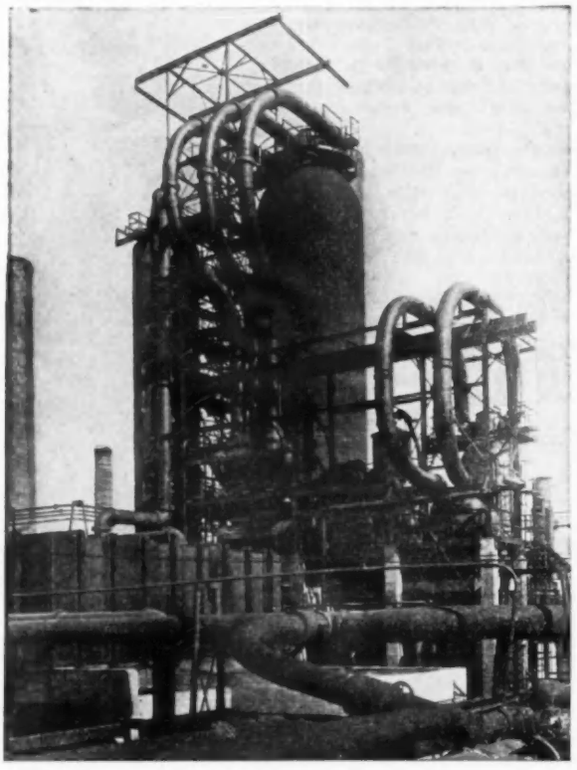

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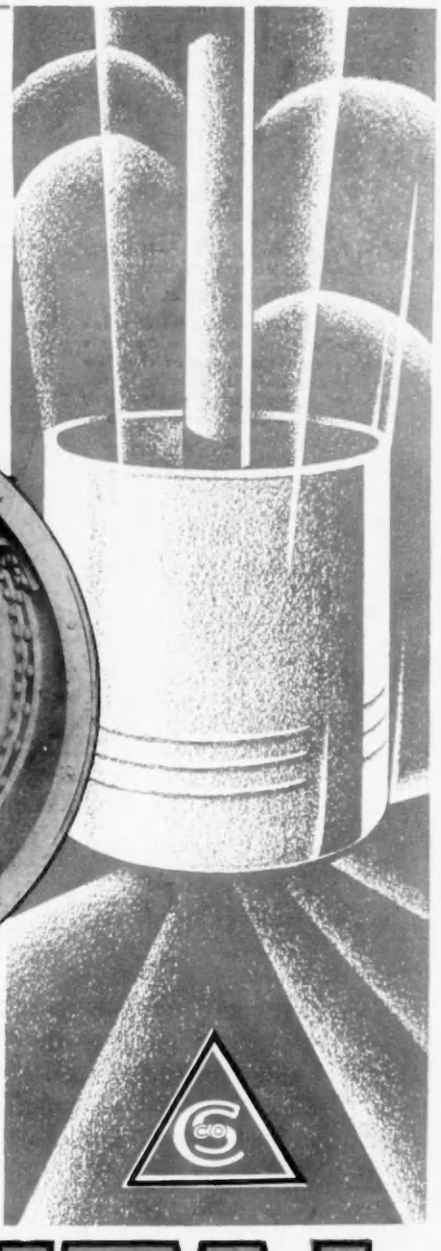

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THE OIL WEEKLY

October 30, 1931
Vol. 63, No. 7

S. W. ROBINSON
Editor

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THE OIL WEEKLY

VOLUME 63, NO. 7 OCTOBER 30, 1931

Acreage Basis Plan Proposed For East Texas Proration

By H. H. KING
Staff Representative

DALLAS, Texas.—Stacking of hundreds of rotary rigs in the East Texas field within the next 30 days will materialize if approval is given by Governor R. S. Sterling and the railroad commission of an important change in the method of prorating the field as endorsed by operators during a meeting held here October 27.

The meeting was sponsored by the Texas Oil and Gas Conservation Association for the sole purpose of curtailing drilling, which has mounted to new peak levels for many consecutive weeks because the existing proration plan placing a premium on drilling in the form of increased production allowance for such operators that are financially able to carry on development work. The substitute plan of proration will place the field on a straight acreage basis for determining lease production quotas, with special provisions made for the many small tract owners.

Charles F. Roeser, Fort Worth independent, with extensive holdings in the East Texas field, and president of the above association, drew unanimous support of all operators and officials of major companies attending the meeting in offering the acreage plan of proration as a substitute for the flat allowance per well. All present stressed the importance of obtaining immediate relief from the drilling orgy that has taxed the resources of many of the lease owners in trying to keep pace with neighbors in taking care of offset wells.

Although only a portion of the total lease ownership in the field was represented by the 80 operators present, the independents that failed to have representation are expected to sympathize with the substitute plan, as it is somewhat similar to the one that was given a brief trial beginning June 20 after being formulated by independents headed by Tom Cranfill. This was known as the Cranfill plan, and was terminated by complete disregard of proration orders of the commission by independents and majors, with martial law and a shut-down eventually resulting from this breakdown.

Out of the many proration plans advanced for the East Texas area all have their good and bad points, according to Roeser, and the time has now arrived for the adoption of a permanent plan that will serve equitably the small and large lease owners. He stated that the field is defined for production on all sides, and that a recent survey by engineers estimated 93,000 acres of productive territory within the confines of the 3300-foot contour line, with the east flank fixed by the abrupt termination of the Woodbine.

Adoption of a straight acreage plan affords real equity for land owners as well as operators, and offers the only means of obtaining a curb on drilling. Roeser stated that eventually the field would be prorated to about 60 barrels daily per well under the present plan, and possibly 2500 unnecessary wells would be drilled, while prompt action may hold the total to about 3500 wells.

(*Continued on page* 35)

Drop Court Action Against East Texas Output Control

Tyler, Texas.—No further court action, it has been intimated, will be resorted to by Brock-Lee Oil Company to sustain the temporary injunction granted in federal district court here October 13 against proration enforcement by the state on five wells operated by the company in the East Texas field. Decision was reached last week not to follow through on the case by a majority of the group of operators that contributed properties for the organization of the above concern with a Delaware charter to attack martial law and proration enforcement in the field. Public sentiment aroused over the prospect of this huge field again being exposed to unrestricted production, with an inevitable collapse of the crude market and price structure throughout the Southwest, is believed to have been a factor in the withdrawal of support to the anti-proration fight by members of the group.

Brock-Lee Oil Company failed to obtain the temporary production relief, consisting of a daily allowance of 5000 barrels for each of its five wells, as authorized by the injunction because Governor R. S. Sterling, who was not named a defendant in the suit along with other State officials, issued a special order for the military authorities to keep the wells in question closed to regular production allowances. Federal Judge Randolph Bryant granted the injunction plea to Eugene Constantine and J. D. Wrather, plaintiffs for Brock-Lee Oil Company, and at the instigation of attorneys for the latter cited Brigadier General Jacob F. Wolters, commander of the militia, to appear in

court to answer contempt charges October 22. The military commander immediately filed an answer to the contempt charge, and same was taken under advisement by Judge Bryant, who announced that a decision would be made when Brock-Lee Oil Company's suit is scheduled to be given a test before a three-judge court at Beaumont on October 29.

Disruption of the ranks of the anti-proration group will probably prevent the plaintiffs in Brock-Lee Oil Company's case from being ready for trial at Beaumont, and that hearing will automatically be postponed. It is believed that until this case is disposed of no new court attacks will be made on proration enforcement by the state as long as a reasonable price is paid by crude purchasers, and an equitable method of proration is carried out from a small operator's standpoint.

Some of the members of the group that sponsored the court challenge as to the legal standing of martial law and proration enforcement consider a moral victory having been won even though the case is postponed indefinitely. They contend that more consideration will be shown the small operators in the future, and that if the injunction suit had not been filed production would have been reduced considerably below the 165-barrel daily well quota by this time.

Taking it for granted that Brock-Lee Oil Company's injunction suit will be postponed indefinitely, or completely withdrawn, the proration situation in East Texas can be rated as being on a firmer basis at present than at any time in the past. Business leaders in the various towns and communities within and adjacent to the field now are wholeheartedly behind the production restriction program, while only a very small minority of the lease owners have any desire to disrupt the prevailing orderly plan of allocating production. Owners of local refineries and gathering lines for shipping crude in tank cars are not in accord, as their profitable period is dependent entirely on the field yielding distress priced oil in large quantities. The latter group can profit only when the lease and royalty owner sustain losses in oil revenues.

This united support for proration in East Texas is a sharp contrast to widespread sentiment that prevailed prior to the arrival of state troops to take charge of the situation, and the peculiar part of it is that some of those who were so bitterly opposed to proration are now offering their services to oppose any court attack on proration. However, a continuation to this support to conservation efforts is largely contingent upon crude buyers maintaining their price schedules near existing levels, or higher, and the granting of crude market relief by majors to the small operators at the posted price.

Plaintiffs in East Texas Suit Take Depositions of Officials

Austin, Texas.—In the scheduled federal trial at Beaumont, October 29, in which Brock-Lee Oil Company will attempt to restrain the Texas Railroad Commission from applying conservation laws in the East Texas field, attorneys for the company are expected to introduce evidence concerning efforts of the oil states advisory committee to hold oil production down to 902,000 barrels daily in Texas, 518,000 barrels in Oklahoma, and 110,000 barrels in Kansas.

C. V. Terrell, chairman of the railroad commission, was questioned at length about an agreement signed by representatives of the above three states at a conference in Governor R. S. Sterling's office in Austin September 12 when Joseph Weldon Bailey, Dallas attorney, took his deposition for use in the Brock-Lee Oil Company suit. Bailey also took a deposition from R. D. Parker, chief supervisor of the oil and gas division of the commission. Pat M. Neff and Lon A. Smith, the other two members of the commission, were absent from Austin at that time.

Taking of the depositions from Terrell and Parker officially brought to the attention of the attorney general of Texas for the first time the information as to the agreement between the three states to keep oil production within certain limits. Although that information was made public at the time, September 18, the attorney general was not consulted, and the matter had not come to his attention.

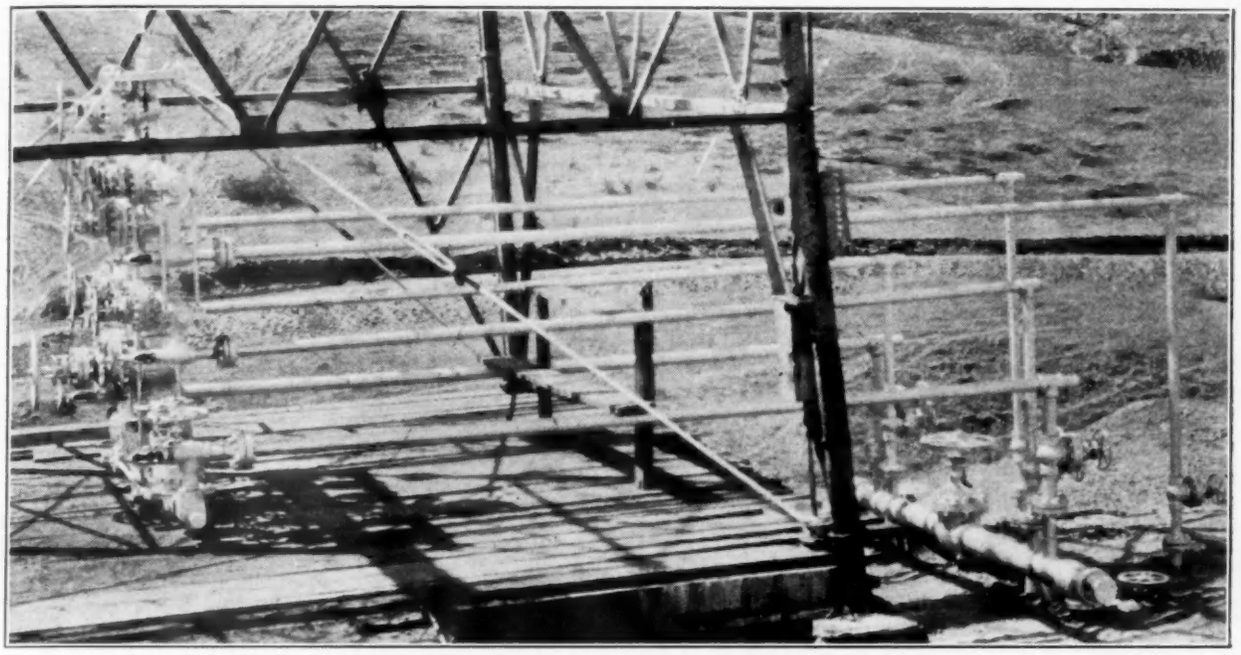
By virtue of the agreement doubt exists as to whether or not the attorney general will be able successfully to defend the state's agents in the Brock-Lee suit or any suit filed in the state contesting the conservation orders issued by the railroad commission, as it appears that an effort will be made to show that the commission is in reality considering market demand for oil, as it is expressly forbidden under the new conservation laws of Texas to do, rather than the prevention of waste, which is the limit of its powers.

Brock-Lee Oil Company was granted a temporary injunction October 13 at Tyler, Texas, by United States Judge Randolph Bryant of the Eastern District of Texas, restraining the Texas Railroad Commission and its agents and the military forces from interfering with operation of five wells owned by the company, and the suit was then scheduled to come up for consideration before three federal judges at Beaumont on October 29.

Brigadier General Jacob F. Wolters, in command of the militia in East Texas, refused to recognize the restraining order, contending instructions issued immediately after the court order by Governor Sterling as commander-in-chief of the militia superseded the federal court judgment. The general then placed guards over the Brock-Lee Oil Company wells to hold their production within 165 barrels daily each in accordance with a new military order which Governor Sterling substituted, following the court action, for the railroad commission order which had previously constituted the basis for East Texas curtailment.

Judge Randolph Bryant on October 22 at Tyler ordered General Wolters to appear and show cause why he should not be held in contempt for disregarding the court's decree of October 13. Attorneys for General Wolters immediately filed an answer to the order, pleading that the defendant was not in contempt because he was acting under executive order of Governor R. S. Sterling. Judge Bryant said there probably would be no action taken on the case until October 29, when the entire matter would be heard at Beaumont. The court's order of October 22 was based on the petition of Joseph W. Bailey, attorney for E. Constantin and others connected with the Brock-Lee interests, asking that Wolters be summoned for contempt of court.

In the answer it was pointed out that a restraining order which would prevent General Wolters as commander of the martial law district from carrying out the instructions of the governor would be a restraining order against the State of Texas. It would be an order, the answer alleged, "restraining the State of Texas from enforcing the law within its territorial limits, and enjoining and restraining the State of Texas from protecting its citizens and their right to life, liberty and property." The injunction, it contended, should be "dissolved in so far as this respondent is concerned, or modified so as not to enjoin and restrain this respondent from obeying the martial law proclamation and orders of the governor of the State of Texas."



CHRISTMAS TREES

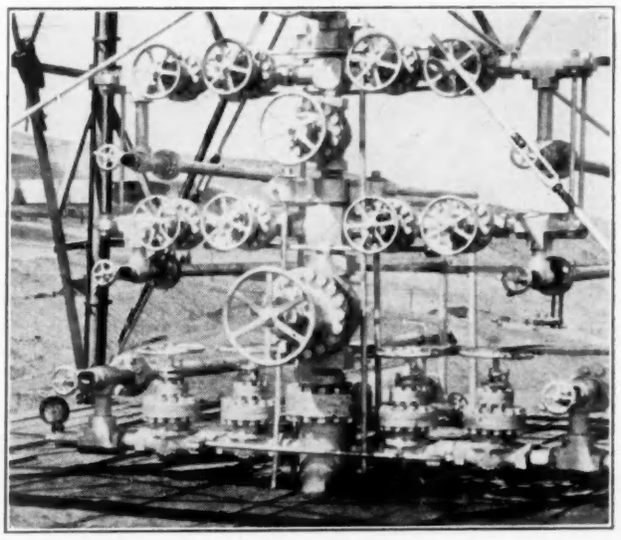
High pressures, court orders and natural fear of blowouts have established high standards at Kettleman Hills

By BRAD MILLS
Staff Representative

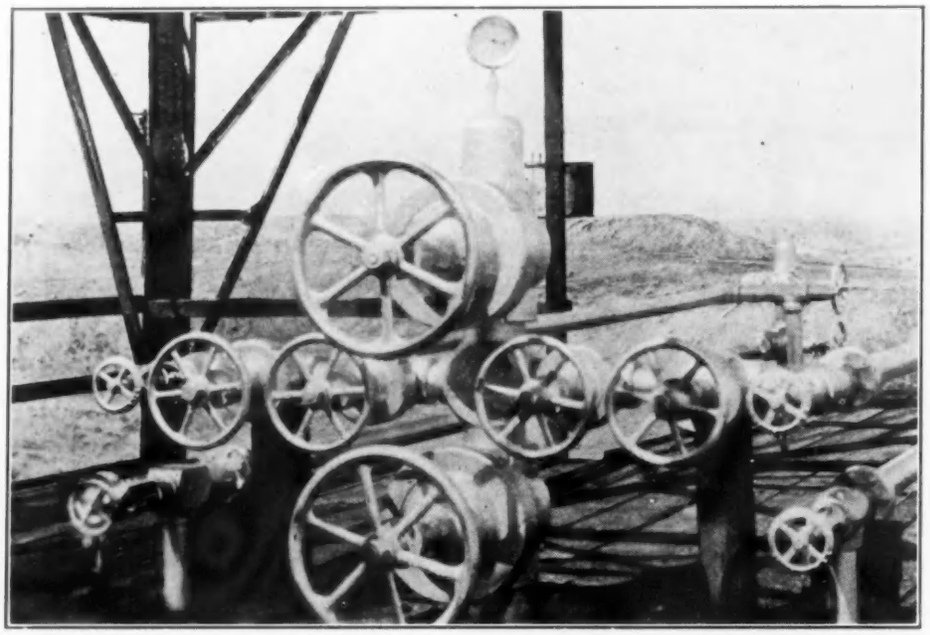
A STUDY of Christmas tree designs at Kettleman Hills immediately reveals the effect that one field can have one general design of assembly, as well as individual construction of valves and connections. High pressures, court orders and the natural fear of blow-outs have combined to establish a very high standard of construction. The field has been directly responsible for changes in valve construction, while the general designs are not duplicated in any other district.

When the discovery well blew out late in 1928, fear was held that pressures would prove too high for the best equipment of the time. This loss was followed by another serious blow-out, and soon the field was looked on as a super-high pressure area which might never be controlled satisfactorily. The original theory held to the belief that when a valve was opened or closed, it could be changed only with the greatest difficulty until the pressures finally decreased in the field. Now it is known that the field is normal in most respects, and the highest pressures may be controlled with ease where caution is exercised.

The Christmas tree arrangement on the first completions literally suggest Christmas morning, and it does not require a wide sweep of the imagination to understand the simile. They are somewhat complicated, but perhaps not too much so, when the motives back of their design are considered. The necessity of flowing wells around broken connections was realized and this realization was the chief reason for a series of lead lines, where fewer connections would have sufficed under less hazardous conditions. With only one control head, the variety of upper exits seemed slightly paradoxical, but since it was possible to provide a series of splits past the single flow string, the one chief outlet and several choices above were not so inconsistent



Shell Oil Company's Dixon 1 at Kettleman Hills has a Christmas tree more elaborate than some but simpler than others. The lower picture shows it, and the larger one above shows the complete hook-up



Note the tailored appearance of the Christmas tree on Superior Oil Company's Huffman 2

after all. The only point which could lose a well through breakage was the connection at the top of the casing.

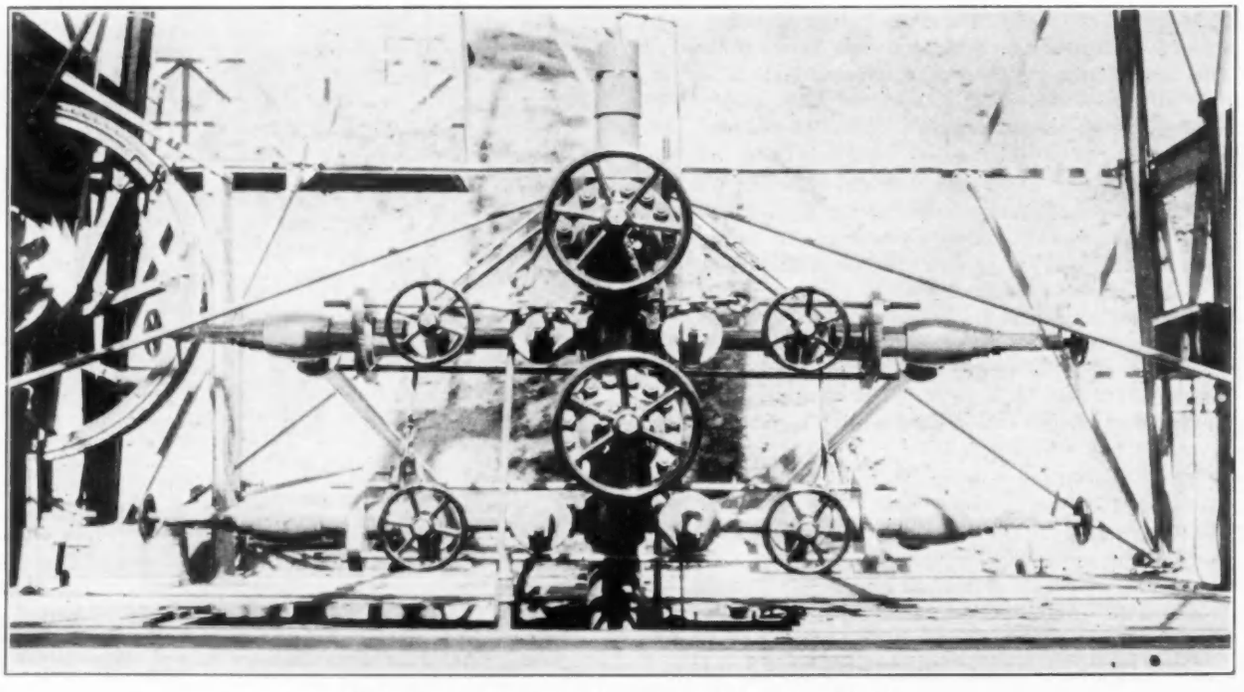
The trend at Kettleman Hills is now toward a more simple Christmas tree assembly. There has been no compromise with pressures, however, and the highest test valves developed are being used to advantage. The great mass of valves in use on several wells probably will not be needed, but it must be admitted that they offer an added safety factor. As pressures decline, the necessity for a variety of flow lines is not so apparent, and simplicity will become more in evidence.

The cost of a single Christmas tree, including the installation charge, has run as high as $25,000, giving Kettleman Hills a record in another respect. The tendency has been to reduce this extremely high cost through reduction of the number of lead lines. One well was equipped to use an extra top section of valves and flow beans, but performed equally well after a part of the equipment was removed. This producer has a much lower safety margin than it originally had, but it still has at least two choices above the derrick floor, as against the one flow string from the well. Removal of two beans and five large valves simplified operation and reduced the investment in surface equipment.

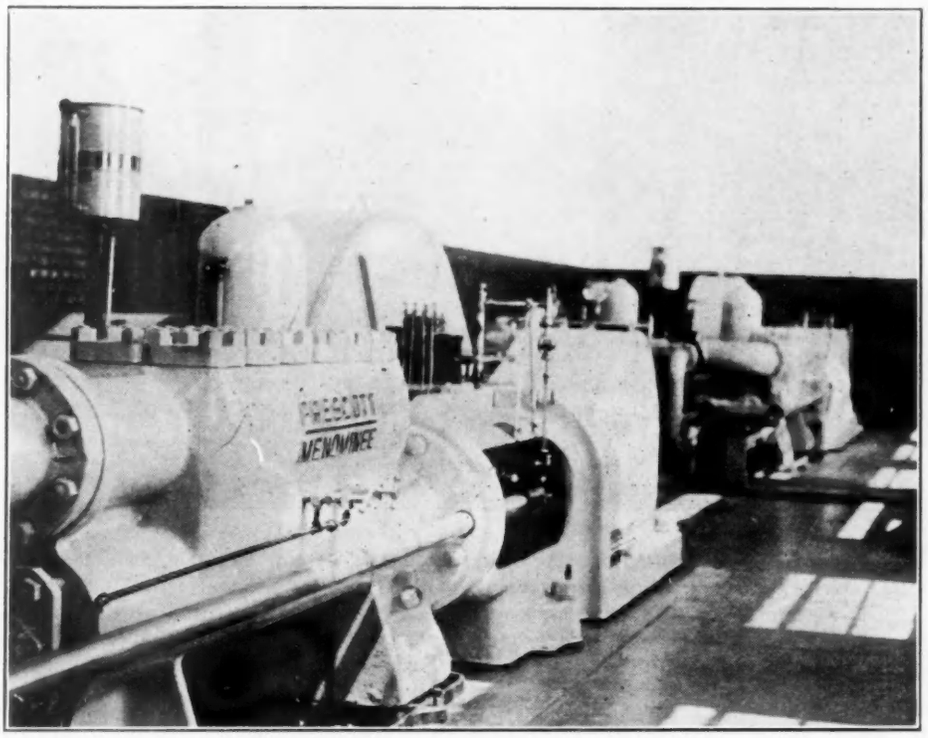
Development of special types of valves to handle pressures encountered at Kettleman Hills was attempted and carried out by more than one manufacturer. Occasionally a field requires special equipment, due to unusual conditions, and the North Dome at Kettleman Hills has already become famous for its demands on the manufacturer. The old Coalinga field presented difficult problems which were solved only after the correct type of casing was developed. Other fields have been directly responsible for various improvements that have not only solved the local problems but that have had an influence on the entire industry.

One of the greatest difficulties in finding a satisfactory

(*Continued on page* 72)



The bracing on Union Oil Company's King 1 *is effective*



Main Line Pumps

Great Lakes' Terminal Keeps Pace *With* Industrial Development

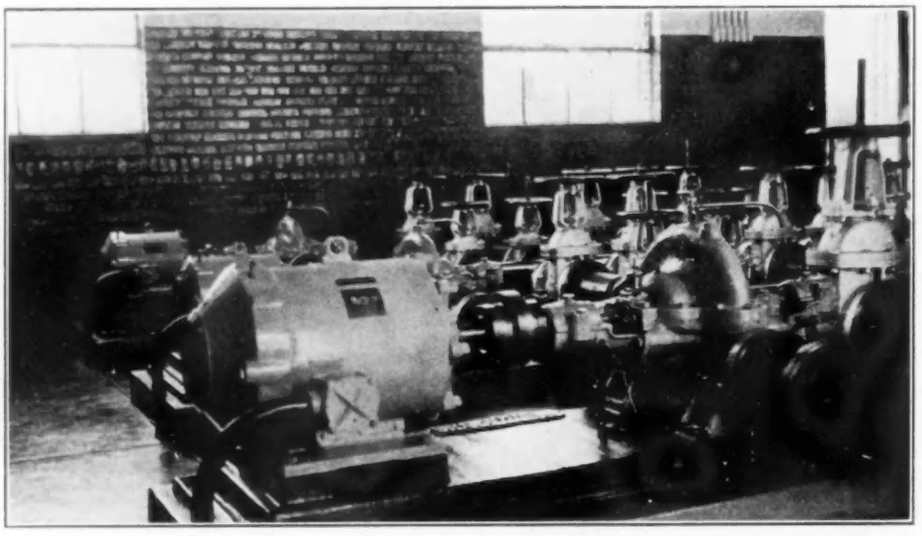
THE Kansas City terminal of Great Lakes Pipe Line Company affords ample proof that the oil business is keeping pace with modern industrial development. It has not been many years since practical pipe line men declared that a gasoline line of any appreciable size and length was impossible. They have witnessed the accomplishment of the impossible in the success of the Great Lakes system, a development which parallels the finding of petroleum in the Oklahoma red beds, for many years condemned by geologists.

There are many features in the construction and equipment of the Kansas City terminal which shows its up-to-dateness. In the first place, the station is located adjacent to the Fairfax airport, Kansas City's great air depot. The Kansas City offices of the company are located on the second floor of the administration building of the airport. Housed together, they further exemplify the intimate relationship between air transportation and gasoline.

Along the eastern edge and to the north of the terminal buildings can be found the dike designed to prevent the Missouri river from overflowing the industrial bottom land on which the equipment of Great Lakes Pipe Line Company is located. Across the property runs the transmission line of a great electric power company. To the south and east can be seen the industrial section of the two Kansas Cities, while on the bluffs overlooking the industrial area, directly south, can be seen the tops of modern sky-scrapers. It is in this setting, showing many of the details of modern industrial progress, that the Kansas City terminal of this gasoline pipe line system has been located.

The terminal's main line pumps are housed in a large brick pump house. The pumps are powered with two 330-horsepower Winton diesel engines, six cylinder vertical type, with airless injection. These engines are direct-connected to two 5¾ by 24-inch horizontal, duplex, double-acting Prescott gasoline pumps. These pumps are equipped with longer glands than those customarily used on equipment utilized in crude oil transportation. They are also equipped with a lantern gland, enabling the oiling of the packing in the pump, thus preventing hardening of the packing and the leaking of gasoline. The engines and pumps are separated by a brick partition, for protection against fire hazards. The interior walls are painted white, and the large windows permit excellent ventilation in all parts of the building.

Nearby, a smaller brick building is used to house the auxiliary equipment, handling the fuel and water used by the main pumps. Close to the two buildings is located the spray tower for the water system and the two tanks used for the water and oil storage. To the rear of the main



Transfer pumps and transfer manifold for loading tank cars

building is located the concrete pit containing the main line and tankage gate valves. The manifolding arrangement permits the Kansas City station to act as a line pump station in the main system, with terminals at more distant points from the Oklahoma point of origin, or it may handle the gasoline as a terminus itself.

Storage Equipment

Major tankage equipment at Kansas City consists of two steel tanks having a capacity of 82,000 barrels each; two tanks of 30,000 barrels each, and three tanks of 17,500 barrels each. The tanks are equipped with Wiggins pontoon floating roofs, to minimize gasoline losses due to evaporation and to minimize fire hazards as well. When the Kansas City station is working as a part of the system, with the terminus of the shipment at a more distant point, the two 30,000-barrel tanks are used as working tanks, or floating tanks. In floating a tank, the gasoline is pumped into the tank, with the intake for the pumps taking off the line to the tank, so that the tank really gets only the surplus liquid, if any. This keeps the liquid level in the tank as nearly constant as possible, and reduces gasoline losses due to evaporation.

Tankage arrangements at each terminal point on the entire system have been designed to take care of the requirements of the line, from the next immediate point of origin. Inasmuch as gasoline of two grades is now being handled by the company, tankage requirements run in pairs. At Kansas City, for example, twin tanks sufficient in size to hold the entire volume of the line between Barnsdall, Oklahoma, and Kansas City, were found necessary, one for each grade that might be handled, in addition a tank sufficient to act as storage for shipments of gasoline by rail from the terminal, covering a period of several days' requirements, was also deemed essential. For both these reasons, the large type tankage has been utilized, instead of numerous units of smaller tanks. Each of the larger storage tanks will hold sufficient gasoline for more than 15 days shipments at the rate of 5000 barrels daily, the duplicate equipment insuring adequate supplies at the terminal of both grades of gasoline. Deliveries from the terminal, accordingly, will not be menaced by breaks in the line, or shut-downs due to other causes.

Due to the increased distance from the point of origin and the resulting increase in the possibilities for line hazards, and to take care of shipment requirements—tankage of larger volume has been installed at the St. Paul terminal of the system, consisting of four 82,000-barrel tanks and four 30,000-barrel tanks. At the Chicago terminal also, the company has six 82,000-barrel tanks and four 30,000-barrel tanks.

Flood Lighting Employed

Near the main building at the Kansas City terminal is located a steel tower upon which a flood lighting system has been installed for the protection and observation of

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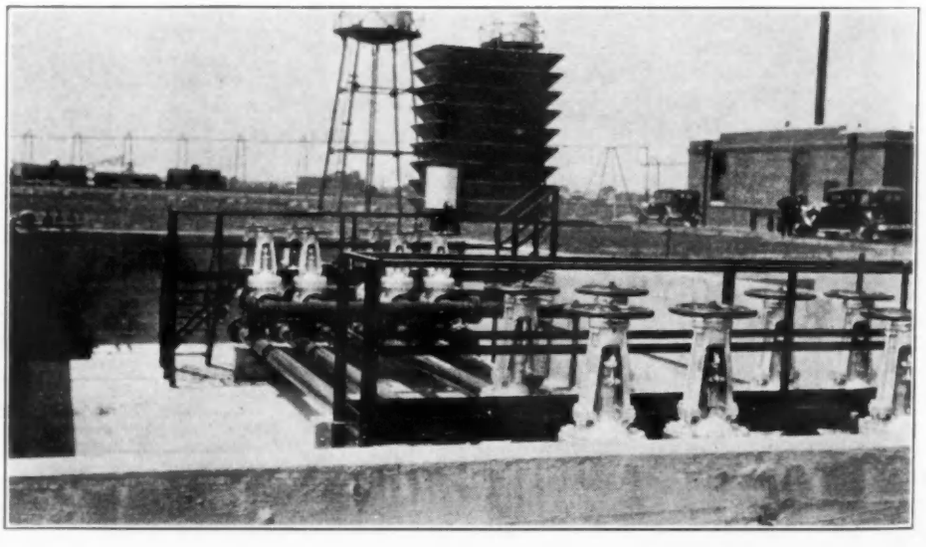


Manifold pit, showing receiving and discharge manifold arrangement

Ancient Coral Reefs and Oil Fields

West Texas geologists discover new manner oil accumulation

By RICHARD A. JONES
Geologist

(*Continued from last week*)

THIS article has interest both for the scientist and the casual reader on geology. Mr. Jones takes us into the family life of the polyp whose remains become the coral which we familiarly associate with the South Sea Islands and old fashioned jewelry, and traces the ancestry of this organism back to when the Permian Basin of West Texas and New Mexico was a sea whose waters favored the genesis of coral whose fossil remains he shows have relation to oil deposits.

IN the following paragraphs the writer briefly describes these Permian reefs and their relationship, as far as known at present, to some oil fields of the region. The specific data is taken from various papers published by geologists who have been engaged in investigation in the Permian Basin. The writer here makes acknowledgement of the source of this information. In order to avoid a multiplicity of footnote references to the generalized data which the scope of this paper renders necessary, a list of the publications on the Permian Basin coral reefs, which have been consulted by the author, is given in an accompanying tabulation. These excellent studies are recommended to all who desire detailed, technical geological knowledge on the reef limestones of New Mexico and West Texas.

The authors of these papers, as well as geologists who have not published their observations on the Permian Basin coral reefs, deserve great credit and praise for their professional ability and enthusiasm in unravelling one of the most difficult problems ever confronted by petroleum geology.

Capitan Reef Limestone

Many persons in Texas and perhaps the majority of individuals living in other states seldom think of the existence of lofty mountains in the Lone Star commonwealth. However, that part of Texas between the Pecos River and El Paso is traversed by ranges of mountains. These ranges are part of the Rocky Mountain system. From Texas they pass northward into New Mexico and southward into Coahuila in old Mexico.

The highest altitude in the sierras of West Texas is "El Capitan" peak, in northwestern Culberson County, at the southern end of the Guadalupe range, which lies principally, however, in New Mexico. In Spanish, "El Capitan" means "The captain or commander." The early Spanish explorers appropriately named this towering peak, for it is indeed the commander of the trans-Pecos cordilleras of Texas, rising to an elevation of 9020 feet.

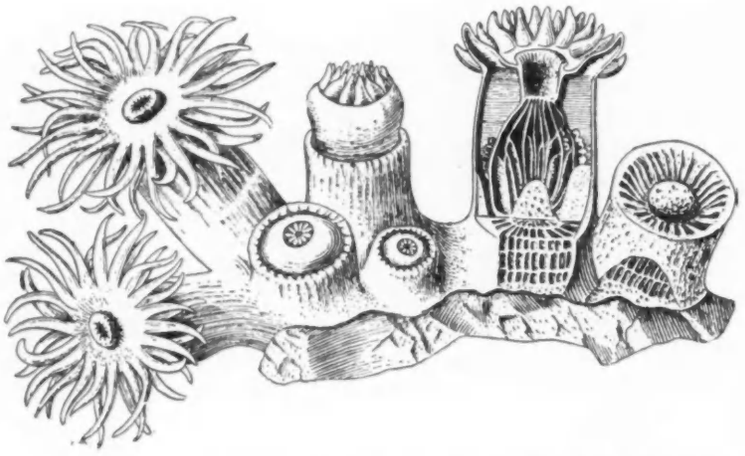
One mile to the south of El Capitan summit is a great cliff, known as Guadalupe Point. Almost 2000 feet of this escarpment is a nearly perpendicular wall of limestone. This spectacular cliff in association with the highest point in the entire state of Texas early attracted the attention of the men of the United States Geological Survey who started investigation of the region as much as 40 years ago. These geologists named the limestone exposed in Guadalupe Point the "Capitan Limestone."

The formation name of "Capitan limestone" has come down to the present, but it has remained for the intensive geologic study brought about by the oil development of West Texas since 1924 to discover new facts about this limestone deposit. The Capitan limestone is of Permian age, possibly the youngest really marine Permian in the United States. In general description it is a gray, massive, porous lime rock, in places containing fossils.

The petroleum geologists of West Texas were at first perplexed by the geological conditions surrounding the Guadalupe Mountains. The formations on opposite sides of El Capitan Peak and Guadalupe Point, that is, to the north and south of the Capitan limestone, are very dissimilar. For example, a certain dark limestone series south of the Capitan outcrop is represented north of Guadalupe Point by "Red Beds"—gypsum, red shale and red sandstone.

The effort made to solve the presence of such remarkable and contradictory geology lead to the discovery that the Capitan limestone is an ancient fossil coral reef. Various characteristics of the limestone indicate this,—the massive nature of the rock, the extensive development of dolomite, the existence of peculiar depositional features found only in connection with coral reefs. The lack of fossils in many places, especially of corals, has been urged as a feature pointing against the coral reef origin of the Capitan limestone. However, the reef rock locally contains many broken, unidentifiable corals, and moreover, fossils are often destroyed by the crushing and cementation of the corals which attend the formation of reefs. In addition, forms of life other than corals have, as has been previously noted, an important share in building reefs. Much of the limestone of the Guadalupe range has been found to have been formed by coralline algae, which now appear in the rock as small rounded balls with concentric structure. The weight of evidence is that the Capitan limestone represents a barrier reef of Permian days.

From Guadalupe Point this fossil barrier reef can be traced on the surface northeastward some 70 miles to Carlsbad, New Mexico, where it dips under the plains. The reef formed a barrier separating an open sea with normal marine conditions on the south from a restricted



Colony of living stony or reef building corals, with two individuals fully expanded and feeding, and three individuals retracted and resting. On the extreme right is seen the skeleton of an individual and beside it an individual cut through the center to show the relation of the soft parts to the skeleton, the mouth opening into the gullet and large digestive cavity. From "Textbook of Geology," Volume II, Pirsson and Schuchert; after Pfurtscheller, from Boa's "Lehrbuch der Zoologie"

or lagoonal ocean on the north. The Capitan fossil barrier reef is one of the most extraordinary geological phenomena ever discovered, especially since it appears to have been out at sea a long distance from any large body of land.

So often geological features of the past are regarded as things apart from the geological processes now at work on the earth. The writer wishes to emphasize that this Permian reef was built by the same agencies and by the same means which have been previously described in this article as making modern coral reefs. In those far off Permian days there was a great reef fronting the open sea on the southeast. It resembled the Great Barrier Reef of Australia of today. The coral polyps were growing and multiplying in the same kind of a reef jungle as we find today on coral reefs. There was this contrast, that the animal life of the coral jungles was different,—the plants were of species now long extinct; the shelled forms of life were different; strange appearing fishes, chiefly of the type known as "Ganoids," pursued one another through the coral branches of the reef margin. But, save for this evolutionary change in life, the old Capitan barrier reef of the Permian, if one could have visited it those many million years ago, would have looked as any present coral reef,—the waves rolled in and the surf crashed and foamed above it, just as the waves today strike coral reefs in the tropical oceans.

Capitan or Guadalupe Reef System

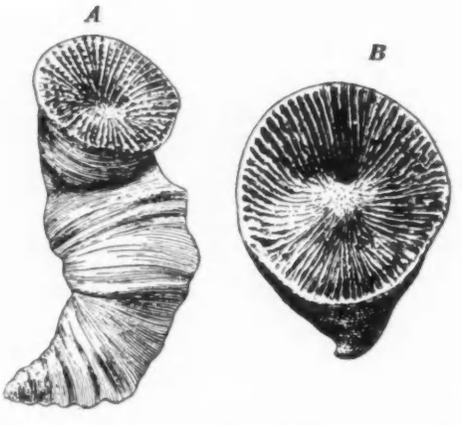
The fossil reef extending from Guadalupe Point and El Capitan Mountain 70 miles northeastward to the vicinity of Carlsbad, New Mexico, is not the only reef in the Permian Basin region. Other reefs have been recognized in limestone beds outcropping on the surface. Still others have been penetrated in drilling operations.

As mentioned in previous paragraphs, the original Guadalupe or "Capitan" reef dips under the plains near Carlsbad. Wildcat wells and drilling in proven fields show that a reef or a series of coral reefs extends in a great irregular circle around what is known to geologists as the "Delaware Sand Basin," a division of the major Permian Basin. Starting at Guadalupe Point, Culberson County, Texas, this reef system reaches to Carlsbad, New Mexico, on the surface. Thence it can be traced in the subsurface through the Getty pool, Eddy County, New Mexico, and on southeastward through Lea County, New Mexico. It continues southeastward by the Winkler and Hendrick field in Winkler County, Texas, whence it is held to extend through western Pecos County, there curving northwest past the Davis and Apache Mountains back toward El Capitan Peak. In the Apache Mountains in southeastern Culberson County the reef is again on the surface, being represented by a thick limestone series, very similar to the Capitan reef rock of the Guadalupe range.

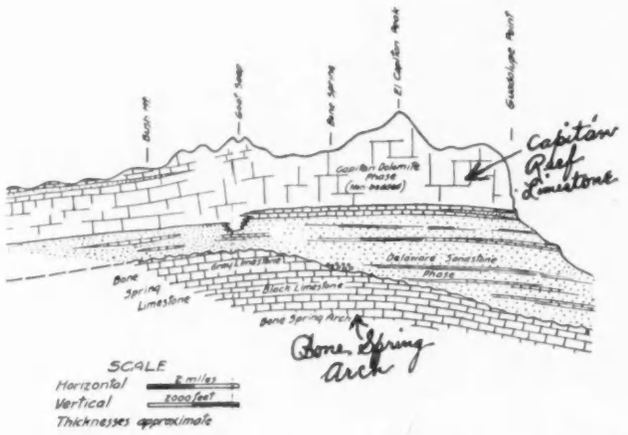
Some geologists familiar with the area give even wider extension to these fossil reefs. For example, some maintain that an ancient reef extends to the Yates field in eastern Pecos County. This whole immense group of reefs is known as the "Capitan Reef System," or as the "Guadalupian Barriers." An accompanying map shows the extent of this great coral reef system of Permian days. There is no other geologic feature like it in North America. The largest fossil coral reefs previously discovered in the United States were those in Indiana and neighboring states. These reefs, known as the Niagaran coral reefs, sometimes are a mile in diameter and 100 feet thick. However the Capitan or Guadalupian reef system extends for hundreds of miles, with sometimes a thickness of 2000 feet of reef limestone.

In previous paragraphs the origin of the present barrier reefs of the world was discussed. The principles there stated hold good for the origin of the Capitan barrier reefs of the Permian: (1.) the maintenance for long geologic periods of a certain depth of water such that corals can grow constantly, building up the reef mass; (2.) this constant water depth being usually produced by the slow sinking of the land; and (3.) the possible existence of sand bars or structural ridges that furnished the base on which the corals started building their limestone reef foundation.

In the discussion of present day reefs, the author illustrated how a long barrier reef could be formed on the coast of Texas, by the sinking of the shore line and the growth of corals upon Padre and other fringing islands. In such a figurative case, the formation of a barrier reef would be definitely caused by the sandbar islands as the starting point of the coral building. The writer believes that similar pre-existent topographical or structural features may have had an important part in the construction and location of



Fossil Paleozoic cup corals. A—common Devonian form ("Heliophyllum halli.") B—Silurian form ("Zaphrentis unbonata,") with deep cup. From "Textbook of Geology," Volume II, Pirsson and Schuchert



North-south cross section of exposed formations on part of west side Guadalupe Mountains. From "Permian Stratigraphy and Structure of Parts of Southeastern New Mexico and Southwestern Texas," by W. Grant Blanchard, Jr. and Morgan J. Davis, Bulletin of American Association of Petroleum Geologists, August, 1929. As will be noted, this section shows the "Bone Spring Arch" underlying the reef limestone of El Capitan Peak and Guadalupe Point. The presence of this structural uplift, with its effect of producing a foundation in shallow water for the growth of corals and other organisms, is held by many geologists to have been the geologic feature, which initiated the reef of Capitan limestone in this locality

the Permian fossil reefs of the Capitan system, possibly more importance than is generally conceded.

However, some geologists who have worked intimately with the coral reef problem of West Texas do stress the above mentioned point. A great structural arch is displayed in cross-section on the west face of the Guadalupe Mountains. This anticline is called the BONE SPRINGS ARCH. It is a mass of limestone which cuts out, by reason of non-deposition, about 3000 feet of younger sediments. It is thought by various geologists that this arch was, in part of Permian days, a submarine topographic and structural ridge, which determined the location of the Capitan reef in the Guadalupe range vicinity. An accompanying section shows how the reef limestone of El Capitan peak lies directly above the Bone Springs Arch.

Oil Fields Associated with Reefs

The salient practical thing, however, about the fossil coral reefs of the Permian Basin is their close relationship in various cases to oil fields. This association of ancient coral reefs and oil fields is, as mentioned in the introductory statements of this article, "something new under the sun" in the petroleum industry. In following paragraphs the relation of various oil pools to buried reefs will be discussed.

(1.) GETTY FIELD, Township 20 South, Range 29 East, Eddy County, New Mexico.

The Getty field is dominated by a reef, which possesses the characteristics of a normal reef limestone. There appears to be no deformation or folding except that due to settling and compaction of the rock layers which lie above the reef mass. The structure and stratigraphy of the Getty pool is shown in an accompanying cross-section.

(2.) PRODUCING DISTRICT AT JAL, LEA COUNTY, NEW MEXICO.

This area is held to be connected with the reef system. It is believed, however, by some geologists that in southern Lea County, New Mexico, as a whole, the reef system and the structural trend of folding diverge somewhat from each other.

(3.) LECK AREA, NORTHERN WINKLER COUNTY, TEXAS.

This district is said to be situated near the margin of the reef system.

(4.) HENDRICK OR WINKLER FIELD, WINKLER COUNTY, TEXAS.

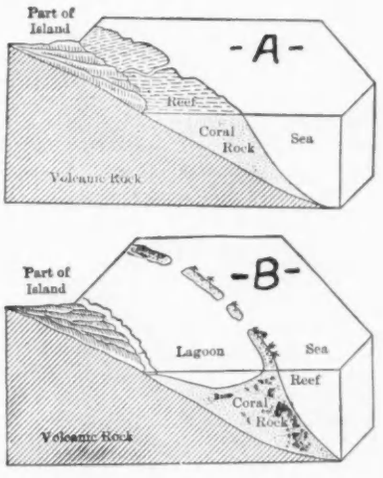
The main Hendrick field is thought by various capable and well informed geologists to be closely connected with a fossil Permian reef. In contrast to the Getty pool, in the Hendrick field there is a deformational anticline intimately associated with the reef. The reef probably lies about three miles west of production. The accompanying cross sections of the Hendrick pool exhibits the geologic and fossil reef structure.

The Hendrick field is one of the largest ever discovered in the Permian Basin. To February 1, 1930, the pool had produced around 114,000,000 barrels of oil. Some phenomenal wells were brought in. The largest, Cranfill and Reynolds' Hendrick C-1 gauged 98,000 barrels per day on a one-hour flow test. An interesting fact about the Hendrick field is that before oil was found the area was believed to be in the deepest structural hole or syncline in West Texas. The discovery well, drilled by R. A. Westbrook et al, encountered the top of the thick salt beds at 1930 feet, or at the deepest salt level to that time found in West Texas.

The data on the relationship of the Winkler field to fossil reefs has been taken mainly from excellent papers by Robin Willis, listed in the accompanying West Texas reef system bibliography. A comprehensive paper, dealing exclusively with the Hendrick pool appears in the July, 1930, number of the Bulletin of the American Association of Petroleum Geologists,—"The Hendrick Field, Winkler County, Texas," by A. L. Ackers, R. de Chicchis, and R. H. Smith. The writer takes it, from reading this description of the Hendrick field, that there is some controversy about the reef problem in the Hendrick pool, for these gentlemen do not appear to subscribe to the reef theory of the field. However, in a geologic issue of such difficulty and magnitude there are bound to be differences of thought. The final solution will be found only by the comparison of the ideas of many keen minds.

(5.) YATES POOL, PECOS COUNTY.

The famous Yates field in eastern Pecos County, Texas, in many respects the most remarkable field ever found in



A—Section through land, and attached, fringing reef. B—Section through land, and distant barrier reef with lagoon between. After Pirsson and Schuchert, "Textbook of Geology," Part I. (Note—In these diagramatic drawings, the land is shown as an island. However, coral reefs form along the mainland of continents as well as along islands. The foundation rock of the land mass is shown as volcanic rock in the drawings, but the land may be based upon any kind of rock—limestone, sandstone, or shale)

the United States or, for that matter, in the entire world, is thought to be possibly of reef origin. Robin Willis, in his papers on the depositional and structural features of the fields of the Permian Basin, thinks that various features indicate the connection of the Yates pool with a buried reef. He cites the exceptional porosity of the pay horizon, the correspondence of the structural axis in the upper beds with that in the lime, and the asymettrical and irregular plan of the structure as all suggesting a depositional "high" of reef origin.

However, as in the case of the Hendrick field, geologists do not all agree on the question of limestone reefs in the Yates pool. In the issue of the Bulletin of the American Association of Petroleum Geologists for December, 1929, is published a detailed study of the Yates pool, some 65 pages in length, and being the only formal article to appear in that number of the bulletin,—"Yates Oil Pool, Pecos County, Texas," by Ray V. Hennen and R. J. Metcalf. These writers state,—"The theory held by some geologists that these two folds (of the Yates pool) are the result of reef structure similar to the formations on the western side of the Permian Basin is largely discounted by the pronounced structure occurring in the Permian strata above the limestone and in the Triassic and Cretaceous beds."

This again shows the difficulty of complete accord on the many extraordinary features of West Texas geology. The writer worked in West Texas in 1924, when Big Lake was the only field and when little was really known about the Permian Basin. At that time he made a subsurface map of eastern Pecos County, based on the top of the "lime," from the records of the few widely scattered tests which had been drilled, such as the Texas Top, Republic and Circle Oil Corporation wildcats. Even at that date there was known to exist in eastern Pecos County a tremendous buried mass of limestone, having a structural or topographic elevation of some 1200 or 1500 feet. The writer was frankly puzzled by this feature and called it a "buried mountain." And even today, geologists are still puzzled over the geology of eastern Pecos County. Possibly the problem will be solved by deep drilling, revealing the structure and character of the deeply buried sediments.

Types of West Texas "Highs"

Without doubt there does exist in the Permian Basin a system of ancient fossil coral reefs. Without doubt in many cases these reefs do have a close connection with oil fields. In other cases, fields do not have connection with limestone reefs.

The lime "highs" of West Texas and New Mexico which have determined the location of oil fields may be classified as follows:—

(1.) "Depositional High": This is a mass of limestone rising up into the salt and red beds, and due to deposition of sediments, and not to uplift of sediments by folding. A reef, as can be plainly seen, could be built up into a great porous accumulation of limestone and furnish closure for trapping oil and gas as efficiently as a structure produced by folding or faulting. The Getty pool, New Mexico, as has been mentioned is an example of this type.

(2.) "Structural High": Such a "high" has been caused by the uplift of folding and faulting alone. The "High" of the Big Lake field, Reagan County, Texas, is, as far as can be told, due to structural movements.

(3.) "Combination Depositional and Structural High": In this case, a depositional high, as an ancient coral reef has been formed, and has then been accentuated by folding or faulting. In addition, structural stresses before the building of the reef may have determined the location of the reef in the Permian ocean. The Hendrick field, Winkler County, Texas, and the Yates pool, Pecos County, Texas, appear to represent this type.

Conclusion

In major aspects, the coral reef problem of the Permian Basin of West Texas and New Mexico is that of "ancient shorelines." The development of petroleum geology has shown the increasing importance of old coastal boundaries. For some reason, it appears that along coasts where the sea has remained more or less stationary for long periods of geologic time, the conditions in the future become favorable for the accumulation of oil and gas.

Structural movements appear to occur along these long trends of old coast lines. Great bodies of sand are often deposited which may ultimately become petroleum reservoirs. The Pettus field of Bee County, in the coastal plain of Southwest Texas, is, for example, held by some geologists to be a "folded shore line." Similarly, the recent discoveries in the Rusk and Gregg County area of East Texas may be controlled by an ancient shore line, along which the Woodbine sand was in places laid down in sufficient thickness to form a storage place for great quantities of oil. In the Permian Basin coral reefs were built up along the shorelines of the Permian sea, instead of the sands which were deposited in many other regions along ocean coasts. The reef limestone equals or excells sandstone as a porous reservoir rock.

The Permian Basin has revealed many unexpected things to the oil industry. The prolific Hendrick field of Winkler County was discovered in what was thought to be the deepest syncline of the entire basin. The deepest producing wells in the world, flowing from the depth of 8500 feet, are in the Big Lake pool of Reagan County. This record-breaking deep oil is coming from Ordovician, the same general horizon as that which produces hundreds of miles to the north in the Oklahoma City field. However, the most surprising geological fact as yet found in this remarkable Permian Basin is the close relationship which exists between ancient coral reefs and producing oil fields.

TABLE 1

Bibliography of Papers on Permian Basin Reef Limestones

1. "Capitan Limestone and Associated Formations of New Mexico and Texas," by E. Russell Lloyd, Bulletin of the American Association of Petroleum Geologists, June, 1929.

(The following named papers are all published in the Bulletin of the American Association of Petroleum Geologists for August, 1929.)

2. "Permian Stratigraphy of Southeastern New Mexico and Adjacent Parts of Western Texas," by K. H. Crandall.

3. "Permian Stratigraphy and Structure of Parts of Southeastern New Mexico and Southwestern Texas," by W. Grant Blanchard, Jr., and Morgan J. Davis.

4. "Preliminary Correlation of the Texas and New Mexico Permian," by Robin Willis.

5. "Structural Development and Oil Accumulation in Texas Permian," by Robin Willis.

6. "Discussion of Permian Symposium," by Charles Lawrence Baker.

7. Research note, "Coralline Algae," Guadalupe Mountains," by Rudolph Ruedemann.

(Other references are):

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9. "Review of the Late Paleozoic Formations and Faunas with Special Reference to the Ice Age of Middle Permian Time," by Charles Schuchert, Bulletin of Geological Society of America, Vol. 39 (1928).

TRANSIT TONGS

Not just
"KLEIN TYPE"
but the —— *Genuine*
KLEIN
TONGS

THE continued demand for TRANSIT TONGS by the oil and gas industries during the past forty-five years is the best proof of their excellence.

They won their place through merit, and have held it against all the imitations.

The only genuine Klein Tongs are made today by us, just as we made them forty-five years ago.

Of course we have taken advantage of advances in metallurgy, so that today TRANSIT TONGS are stronger than ever.

The heads are painted red for your protection.

REFINERY PUMPS
FOR HOT OIL
and many other refinery service

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BEAUMONT, TEXAS
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TOOLS
for Pipe Line Construction

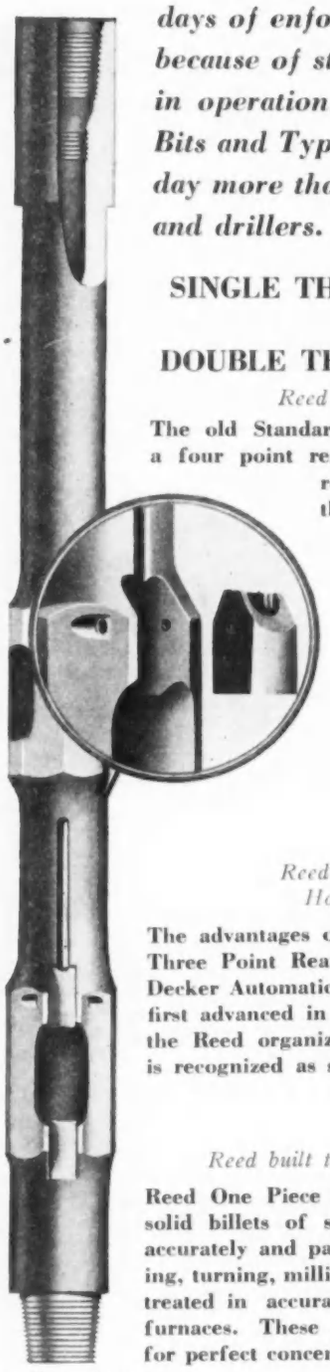
GAS ENGINES

GAS ENGINE GAS COMPRESSORS

NEW YORK PHILADELPHIA CLEVELAND PITTSBURGH LOS ANGELES HOUSTON TULSA NEW ORLEANS

WHY

Reed Type 31 Roller Bearing Bits and Type 31 Reamers stand supreme in these days of enforced economies, because of the lower cost per foot of hole drilled—because of straighter, more reliable hole drilled, and because of greater safety in operation. The rapidly increasing demand for Reed Type 31 Roller Bearing Bits and Type 31 Reamers is due to results being gotten—results which are to-day more than ever being required of contractors, superintendents, tool pushers and drillers.



One Piece Forged Heat Treated Alloy Steel Type 31 Double Three Point Reamer Body, machined ready to receive case hardened Reamer Cutter Pin Bearing Blocks.

SINGLE THREE POINT REAMERS *and* DOUBLE THREE POINT REAMERS

Reed originated the reamer.

The old Standard Model Reed Rock Bit carried a four point reamer to keep the hole straight, round, and out to full gauge, so that casing would slip in easily.

●

Reed originated the Single Three Point Reamer and the Double Three Point Reamer.

The first reamers of this type were made by the Reed Roller Bit Company and introduced first in Oklahoma fields.

●

Reed pioneered in Straight Hole Drilling Practice.

The advantages of using Reed Single and Double Three Point Reamers in connection with Martin-Decker Automatic Recording Weight Indicators was first advanced in print and by word of mouth by the Reed organization, and today this equipment is recognized as standard everywhere.

●

Reed built the first forged steel reamer.

Reed One Piece Body Reamers are forged from solid billets of selected high quality alloy steel, accurately and painstakingly machined in the boring, turning, milling and threading operations, heat treated in accurate electric automatic controlled furnaces. These reamers can be depended upon for perfect concentricity.

●

Reed introduced the first reamers with adequate tong and elevator space.

These long, perfectly formed reamers are quickly and easily handled on the derrick floor.

●

Reed introduced the first reamer with cutters removable and replaceable without taking reamer apart or removing collar.

This feature has meant much to the operator in not only ease of handling, but rapidity of cutter change.

●

Reed introduced the removable and replaceable Reamer Cutter Pin Bearing Blocks.

These bearing blocks are case-hardened before insertion in reamer bodies, providing extreme durability and resistance to wear from either reamer cutter pins or side wall wear. Blocks are held in alignment by welding, but may be replaced or renewed at any time.

●

Reed introduced spirally cut reamer cutters.

This to effect perfect rotation of reamer cutters, prevent tracking in the wall of the hole and insure a perfect, smooth, round, full gauged hole.

●

Reed first introduced reamers for casing rollers.

And to-day it is possible to roll out dented or collapsed casing of any kind or character, back to its original state.

●

And to-day Reed Roller Bit Company maintains supremacy in the design, manufacture and performance of rotary reamers.

Reed Type 31 Roller Bearing Bits *and* Reed 3-Point Reamers

REED TYPE 31 ROLLER BEARING BIT

The Reed Type 31 Roller Bearing Bit is the fastest drilling bit in the world.

SPEED — As an example — not more than 90 days ago Anderson & Hughes drilled Kentzleman No. 3 at Chandler, Oklahoma in fifteen days less time than any well had ever been drilled in that field before.

The Reed Rock Bit has always led the pace in the drilling of deep holes.

SAFETY — As an example — we cite Penn Mex Fuel Company's Jardin No. 35, 10,585 feet deep — the deepest hole in the world.

The Reed Rock Bit is the cheapest bit to run in any field.

ECONOMY — We cite the decided preference for this bit in East Texas, at Barbers Hill, in Louisiana, at Kettleman Hills, in Oklahoma, Wyoming, Canada — in fact wherever the rotary is now in use. The use of this bit in foreign fields is rapidly becoming more general as operators in foreign fields become familiar with results obtainable.

The Reed Rock Bit is the most advanced type rock bit offered the industry.

RESEARCH — As an example — we pioneered slush lubrication, forged heads and reamer bodies, criss-cross cutters, and *now* roller bearings.

The Reed Rock Bit is a finished product.

QUALITY — It is manufactured under the direction of men with many years of actual field experience. It is the product of the best engineering, metallurgical and shop science available in the industry.

All of which factors have made it profitable for operators everywhere to turn to the Reed Type 31 Roller Bearing Bit exclusively, because of the proven fact that more hole can be drilled in less time and at less cost per foot than ever before possible.

OTHER TOOLS

Reed's Hard and Soft Formation Core Bits.

Because of the splendid economy to be effected through the interchangeability of cutters, pins and washers on the hard formation bit, and because of the long life and splendid core recovery of both the hard and soft formation bits, these core bits are rapidly coming into general use in every rotary field.

Reed Full Hole Tool Joints (also A. P. I.)

Because of the increased slush volume possible with consequent increased cuttings removal, and thereby greater cutting speed; with decreased pump pressures and lessened wear and tear on rig and equipment, Reed Full Hole Tool Joints are rapidly being standardized upon by good operators everywhere. Reed's regular A.P.I. Tool Joints are of the highest quality and of proven dependability.

Reed's Barrett-Robishaw Combination Drilling-Coring Bit.

Hundreds of Gulf Coast operations, thousands of cores taken and tens of thousands of feet of hole drilled have proven the economy of this tool.

Reed's Wire Line Bit.

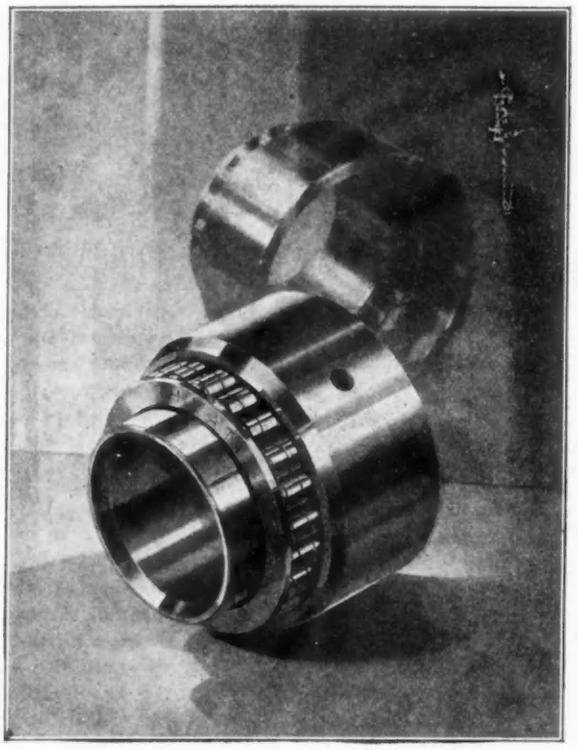
Operating in four, five and six inch pipe, permitting quick change of drilling and coring bits through drill pipe, the economy of this tool is no longer a question but a proven fact.

Distributors of
MARTIN-DECKER PRODUCTS
in the Gulf Coast and Mid-Continent

Type 31 Roller Bearing Bit Complete with Type 31 Double Three Point Reamer

REED ROLLER BIT CO.

HOUSTON LOS ANGELES OKLAHOMA CITY NEW YORK



Specify Hyatts by Name on your Next Order

Every Hyatt Bearing has the absolute assurance of dependable performance built right into it. In no other anti-friction bearing is there more or better control of quality. That is why we are so insistent on calling attention to the fact that only genuine Hyatt Roller Bearings are marked "HYATT-U. S. A."—a symbol of bearing quality.

Hyatt Roller Bearings are a necessary, fundamental, integral part of any piece of mechanical equipment. Consider them in their proper classification. Not as "extras" or "gadgets," but as an assurance of quality construction, power saving operation . . . a safeguard against wear and excessive maintenance.

Equipment employing Hyatt Roller Bearings runs more efficiently, requires less lubricating, and helps reduce operating expense. Hyatts are available for all equipment . . . specify them by name. Hyatt Roller Bearing Company, Newark, Detroit, Chicago, Pittsburgh, Oakland.

HYATT
ROLLER BEARINGS
PRODUCT OF GENERAL MOTORS

Markets • Production • Crude Prices

H. J. STRUTH, ***Staff Economist, Houston, Texas***

Drilling Only Obstacle to Market Improvement

Mid-Continent oil circles continue to view the situation hopefully, convinced that a better crude market will prevail in the near future. Although statistical improvement offers sufficient reason to assume an optimistic attitude, the fact remains that there is one obstacle to market improvement—and that is the drilling situation in East Texas. As long as new, legitimate sources of production are brought into the picture in East Texas, there can be little justification for higher crude prices. Drilling continues to be the factor of uncertainty in East Texas; a factor that offers little assurance of successful prevention of another orgy of over-production. New wells drilled in at the rate of more than 100 a week, with initials averaging more than 8000 barrels per well, serve only to complicate the economic situation and cause the industry to wonder what the final outcome will be.

The reduction in the well allowable of East Texas to 165 barrels resulted in lowering last week's production to a daily average of 400,000 barrels. However, the addition of 110 producing wells during the week creates an additional allowable production of more than 18,000 barrels. Thus, where the railroad commission's order lowers the field output on the one hand, the bringing in of new wells offsets it on the other hand. This situation can mean but one thing and that is continued adjustments in well allowables, perhaps to the point where every operator will be forced to pinch his wells back to less than 100 barrels a day. At any rate, existing conditions offer no other alternative but successive reductions in well allowables. In the meantime, uncertainty over the outlook can offer nothing in the way of an improved crude market structure.

The reduction in East Texas allowable per well last week resulted in lowering output of the field to the extent of 21,850 barrels a day. As a result of this and a decline of similar proportions in Oklahoma, United States production showed a net decline for the week of 55,750 barrels daily. This brought the production curve down to 2,381,250 barrels, somewhat nearer to the economic limit set by the Oil States Advisory Committee. Despite the decline of last week, new wells completed in East Texas have set up an immediate production gain that can only mean the complete dissipation of any benefit that might have accrued through lowering the well allowable. The situation resolves itself into a vicious circle that can only be corrected by direct means to curtail the rate of drilling. Unless some action is taken to reduce the rate of drilling in East Texas, there will continue to be a degree of uncertainty that must act as a preventive to an improved crude market, notwithstanding an otherwise improved statistical position.

All major producing areas except Rocky Mountain and California showed decreases in production last week. Oklahoma City and Seminole contributed to a net decline for that state which amounted to 23,100 barrels. Texas recorded a decline of 30,950 barrels; 21,850 barrels in East Texas and 9700 barrels in West Texas. California production showed a gain of but 700 barrels. Compared with the economic limit, last week's production represented an excess of only 17,800 barrels, although the excess since January 1 amounts to 79,750 barrels. Texas continues to record a considerable excess above the economic limit, which amounted last week to 79,750 barrels daily. In contrast to this, Oklahoma showed a deficit below the allowable figure of 63,500 barrels. Late reports from Oklahoma indicate that stocks are being drawn upon to the extent of about 30,000 barrels daily.

Production in California appears to have become stabilized at slightly above the 500,000-barrel mark, with optimism prevailing over the immediate outlook. One factor that has contributed to the more optimistic tone in California is the belief that the state potential is actually far below former estimates. Another factor is the sharp rate of withdrawals from storage. California's excess over allowable production is now only 20,000 barrels a day.

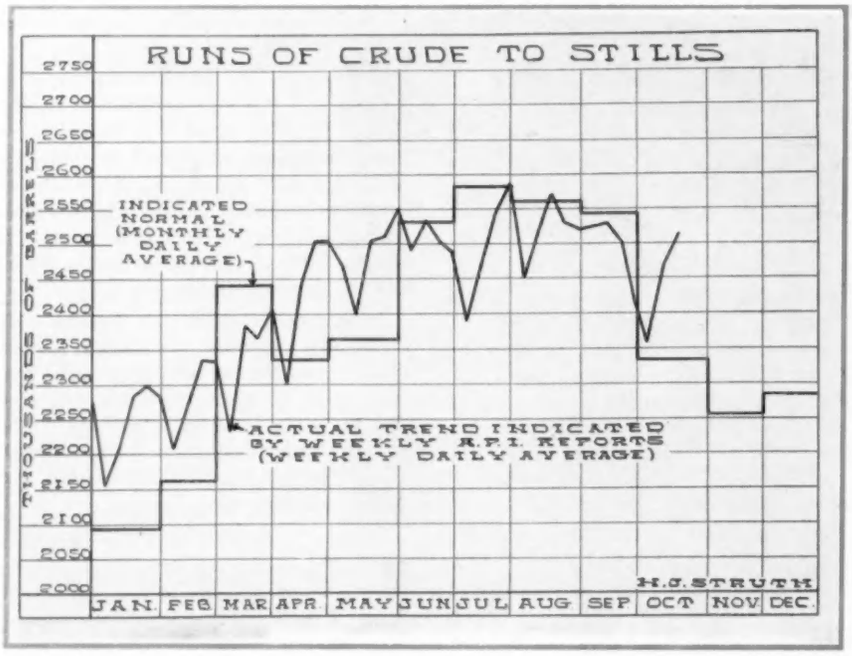
Mid-Continent Marketers See Tank Wagon Increase

With the increase of U. S. motor gasoline in Group 3 to four cents per gallon and a good buying support coming at the start of a seasonal decrease in consumption, Mid-Continent marketers were predicting a one-cent increase in tank wagon prices and the general impression was that a crude price increase is not far in the offing. Regardless of the price structure or the general condition which seems to indicate changes in the near future, one evidently healthy condition was a swing to the more optimistic attitude.

Mid-Continent purchasers were withdrawing from storage at an estimated rate of about 45,000 barrels daily from Kansas and Oklahoma. Only a small percentage was coming from the former state and in Oklahoma the movement of crude from storage was generalized throughout the state. During the week ending Saturday, October 24, it was estimated that daily net withdrawals from Oklahoma storage amounted to about 30,000 barrels, of which about 50 per cent came from the Seminole district.

During the first two weeks succeeding re-opening of the flush pools in Oklahoma production has been held to an average of more than 50,000 barrels per day under the economic limit as set by the Oil States Advisory Committee. A hearing on production allowance for the remainder of the year was commenced on Monday, October 26, with the announced intention of introducing several novel features into the method of prorating Oklahoma fields. Among these, it is understood, will be a proposal by Cicero I. Murray, to place chokes on all flowing wells to conserve gas energy and the placing of locks on all flow connections. Under this plan, oil in storage would be run at the convenience of the producer and purchaser but no well could be produced without obtaining permission and supervision from the proration umpire's office. Murray now has a staff composed of the field and office force formerly acting under Otto Bradford and assisted by other officers of the Oklahoma National Guard. Among these is the son of Governor William H. Murray, who was recently appointed a major in the guard. Inauguration of the lock and key plan most certainly would call for additional proration personnel since it would be necessary to flow a large number of wells simultaneously.

MARKET SECTION



Demand for Los Angeles Basin Crude Increases

A better demand for Los Angeles basin crude has been noted, and if the natural field decline continues there is reason to believe that the supply may not greatly exceed actual demands within a short time. The settled fields of the basin have been quiet during the entire year and the surplus of crude has gradually disappeared. There is still some shut-in production in various fields, but there is every reason to believe that it is not as great as ordinarily believed.

Deepening operations are again claiming the attention of operators in fields where deeper producing zones are known to exist. This phase of development, if carried to extreme, is always dangerous, and it is known that the Los Angeles basin has two or three fields which could be developed on a large scale in zones below the principal producing formations. Dominguez and Inglewood are particularly dangerous in this respect, although the former has been held under control and the latter has escaped the drill for years.

A few of the older fields, particularly Long Beach, expect

Crude Runs to Stills, Gasoline Stocks and Gas and Fuel Oil Stocks

Week Ending October 17, 1931
(Figures in barrels of 42 gallons)

District	Potential Capacity (Daily) Total	Reporting	Per Cent	Crude Runs to Stills Total	Daily Average	Per c't Operated	Gasoline Stocks (see note below)	Gas & Fuel Oil Stocks
East Coast	633,700	633,700	100.0	3,226,000	460,900	72.7	4,045,000	10,802,000
Appalachian	149,600	137,400	91.8	772,000	110,300	80.3	1,296,000	1,657,000
Ind., Ill., Ky.	436,300	431,500	98.9	2,465,000	352,100	81.6	3,501,000	5,285,000
Okla., Kan., Mo.	485,700	435,200	89.6	1,797,000	256,700	59.0	2,755,000	5,041,000
Texas	838,200	765,400	91.3	3,859,000	551,300	72.0	5,451,000	11,570,000
Louisiana-Arkansas	233,100	230,500	98.9	1,207,000	172,400	74.8	696,000	3,602,000
Rocky Mountain	159,400	142,300	89.3	336,000	48,000	33.7	1,288,000	831,000
California	912,500	886,100	97.1	3,433,000	490,400	55.3	*11,804,000	97,125,000
Total week Oct. 17	3,848,500	3,662,100	95.2	17,095,000	2,442,100	66.7	30,836,000	135,913,000
Total week Oct. 10	3,848,500	3,662,100	95.2	b16,538,000	2,362,600	64.5 (b)	30,516,000	135,210,000
Total Oct. 18, 1930	3,730,100	3,566,400	95.6	16,523,000	2,360,400	66.2 (a)	34,677,000	140,035,000
The Texas and Louisiana Gulf Coastal figures shown below are included above in the totals of their respective districts.								
Texas Gulf Coast	532,500	531,500	99.8	2,898,000	414,000	77.9	4,106,000	8,226,000
Louisiana Gulf Coast	147,500	147,500	100.0	847,000	121,000	82.0	544,000	2,693,000

Note: In all the refining districts except California, figures in this column represent gasoline stocks at refineries. In *California, they represent the total inventory of finished gasoline and engine distillate held by reporting companies wherever located within continental United States—(stocks at refineries, water terminals and all sales distributing stations, including products in transit thereto).

(a) Revised in Indiana-Illinois district, due to transfer to "Bulk Terminals" of stocks previously reported as "At Refineries."
(b) Revised in California district due to incorrect reporting of 263,000 barrels as "Crude Runs" instead of "Gasoline Stocks."

MARKET SECTION

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH NECESSARY AND NORMAL QUOTA LIMIT

State—	Indicated Demand Fourth Quarter 1931	Economic Limit Fourth Quarter 1931	Daily Average Last Week	Daily Excess Last Week	Daily Average Since January 1	Daily Excess Since January 1†
Arkansas	56,000	50,000	37,950	—12,050	44,438	—9,962
California	500,000	487,500*	508,100	20,600	523,319	29,819
Kansas	113,000	110,000	101,900	—8,100	106,521	—5,479
Louisiana	75,000	60,000	56,750	—3,250	63,041	—7,459
Oklahoma	525,000	546,000*	482,500	—63,500	464,059	—52,441
Texas	860,000	900,000*	979,750	79,750	891,298	132,598
Balance of U. S.	214,000	210,000	214,300	4,300	207,604	—26,171
Totals	2,343,000	2,363,500	2,381,250	17,800	2,300,280	60,905

*Allowable.
†Excess based on allowable to date.

better conditions and many wells are being cleaned out and repaired. Curtailment has caused operators to neglect this phase of operations, as they already had more oil than they were allowed to produce. The demand for royalties is also better than in the past, inquiries for old wells to be worked over being numerous.

Taking the state as a whole, stocks are being reduced, the reduction during September having been especially impressive. With a production of around 500,000 barrels, California should expect better conditions by the end of the year.

Discovery of a new deep zone at Elwood was an important development and greatly increased the value of the field. The Sespe formation has not been a consistent producer in California, but it may prove an exception at Elwood.

Refinery runs have been gauged by production end are not considered excessive. A further reduction is expected during the winter months.

Cracked Gasoline Production

Week Ending October 17, 1931

(Barrels of 42 gallons)

	Potential Charging Capacity Daily			Production	
	Total	Reporting	%	Total	Daily Average
East Coast	261,300	236,300	94.0	674,000	96,300
Appalachian	56,300	54,100	96.1	191,000	27,300
Ind., Ill., Ky.	330,400	315,400	95.5	612,000	87,400
Okla., Kan., Mo.	237,860	219,500	92.3	449,000	64,100
Texas	450,800	436,200	96.8	982,000	140,300
Louisiana-Arkansas	112,400	112,400	100.0	263,000	37,600
Rocky Mountain	99,100	97,600	98.5	95,000	13,600
California	190,800	190,800	100.0	172,008	24,500
Total week Oct. 17	1,738,900	1,662,300	95.6	3,438,000	491,100
Total week Oct. 10	1,738,900	1,662,300	95.6	3,466,000	495,200
Total Oct. 18, 1930	1,589,200	1,322,200	83.2	2,632,000	376,000
The Texas and Louisiana Gulf Coastal Figures Shown Below are included above in the totals of their respective districts.					
Texas Gulf Coast	352,400	347,400	98.6	802,000	114,600
Louisiana Gulf Coast	77,000	77,000	100.0	209,000	29,900

Imports of Petroleum at Principal United States Ports

(Barrels of 42 Gallons)

	Week Ended October 17		Week Ended October 10
AT ATLANTIC COAST PORTS—			
Baltimore	514,000		287,000
Boston	.....		183,000
New York	419,000	(a)	741,000
Philadelphia	217,000		210,000
Others	196,000		316,000
Total	1,346,000		1,737,000
Daily Average	192,285		248,143
AT GULF COAST PORTS—			
Galveston District	.....		.....
New Orleans and Baton Rouge	122,000		40,000
Port Arthur and Sabine District	.....		65,000
Tampa	.....		.....
Total	122,000		105,000
Daily Average	17,429		15,000
AT ALL UNITED STATES PORTS—			
Total	1,468,000		1,842,000
Daily Average	209,714		263,143
Daily Average Four Weeks Ended	215,250		226,357
Distribution of Total Imports Is as Follows:			
Crude	1,014,000		1,032,000
Gasoline	119,000		301,000
Gas Oil	.....	(a)	52,000
Fuel Oil	335,000		457,000
Total	1,468,000		1,842,000

(a)—Revised.

California Oil Receipts at Atlantic and Gulf Coast Ports

(Barrels of 42 Gallons)

	Week Ended October 17	Week Ended October 10
AT ATLANTIC COAST PORTS—		
Baltimore	.....	.....
Boston	35,000	.....
New York	243,000	155,000
Philadelphia	174,000	114,000
Others	99,000	38,000
Total	551,000	307,000
Daily Average	78,714	43,857
AT GULF COAST PORTS—		
Total	.....	25,000
Daily Average	.....	3,571
AT ATLANTIC AND GULF COAST PORTS—		
Total	551,000	332,000
Daily Average	78,714	47,428
Daily Average Four Weeks Ended	57,321	51,321
Distribution of Total Receipts of California Oil Is as Follows:		
AT ATLANTIC COAST PORTS—		
Gasoline	551,000	307,000
Total	551,000	307,000
AT GULF COAST PORTS—		
Gasoline	.....	25,000
Total	.....	25,000

MARKET SECTION

United States Daily Average Production

1930	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
June	665,550	133,600	668,300	210,500	40,300	56,900	135,750	84,600	598,000	2,593,500	77,806,900
July	594,750	121,600	652,350	209,400	40,550	55,400	137,200	98,350	610,450	2,520,050	78,121,200
August	558,850	115,650	646,400	206,600	41,500	55,100	128,550	106,000	611,250	2,470,900	76,597,600
September	558,900	116,550	606,550	200,750	40,150	53,550	121,400	110,650	604,900	2,413,400	72,402,205
October	542,100	114,850	609,500	194,850	41,500	52,800	121,750	104,000	590,800	2,372,150	73,536,350
November	491,550	111,400	579,350	190,100	44,050	52,000	116,400	101,950	601,200	2,288,000	68,639,150
December	459,300	105,550	533,400	189,300	43,000	51,100	112,200	100,500	587,450	2,181,800	67,636,500
1931											
January	452,000	106,350	511,050	188,850	41,100	50,700	110,300	96,700	535,700	2,092,750	64,874,450
February	473,750	114,450	523,700	185,600	43,950	49,950	109,800	100,100	527,300	2,128,600	59,600,450
March	531,900	110,550	585,000	177,950	40,250	47,550	108,800	95,400	528,100	2,225,500	68,990,850
April	543,650	109,250	723,050	185,850	39,050	47,000	111,500	95,500	527,350	3,382,200	71,465,750
May	561,950	107,400	767,200	185,950	39,200	46,650	111,250	97,500	534,150	2,451,250	75,975,950
June	556,850	103,150	828,250	170,100	36,500	44,900	108,950	97,950	520,300	2,466,950	74,009,750
July	527,950	100,000	912,250	157,850	33,650	41,400	107,600	94,400	517,900	2,493,000	77,282,700
August	306,150	101,900	976,800	153,550	30,400	37,650	109,600	92,900	510,900	2,319,050	71,890,200
September	261,050	104,600	752,250	149,950	29,600	38,000	117,400	92,250	505,550	2,050,650	61,518,950
Oct. 3	273,500	107,250	836,450	150,750	29,200	37,600	123,600	91,400	497,700	2,147,450	15,032,150
October 10	251,550	107,600	865,200	151,200	28,900	37,500	121,400	92,950	505,500	2,162,700	15,138,900
October 17	505,600	101,900	886,650	154,400	29,500	37,950	120,300	93,300	507,400	2,437,000	17,059,000
Oct. 24	482,500	101,900	854,650	152,350	29,500	37,950	119,050	95,250	508,100	2,381,250	16,668,750
Increase	.....	.....	.....	.....	.....	.....	.....	1,950	700	.....	.....
Decrease	23,100	.....	32,000	2,050	.....	.....	1,250	.....	.....	55,750	390,250

Last Week's Daily Average Production by Districts

TEXAS	Oct. 24	Oct. 17
Panhandle	65,050	64,850
North Texas	57,400	56,900
West Central Texas	26,950	27,000
West Texas	192,700	202,400
East Central Texas	56,250	56,200
East Texas	400,300	422,150
Southwest Texas	56,000	57,150
Texas Gulf Coast	125,100	124,050
Total Texas	979,750	1,010,700
OKLAHOMA	482,500	505,600
CALIFORNIA	508,100	507,400
KANSAS	101,900	101,900

LOUISIANA	Oct. 24	Oct. 17
North Louisiana	29,500	29,500
Louisiana Gulf Coast	27,250	30,350
Total Louisiana	56,750	59,850
ARKANSAS	37,950	37,950
MOUNTAIN STATES		
Wyoming	39,250	37,450
Montana	7,750	7,450
Colorado	4,450	4,750
New Mexico	43,800	43,650
Total Mountain States	95,250	93,300
EASTERN STATES	119,050	120,300
TOTAL UNITED STATES	2,381,250	2,437,000

Summarized Review of Field Results

State—	Completions This week	Completions Last week	Oil Wells This week	Oil Wells Last week	Gas Wells This week	Gas Wells Last week	Failures This week	Failures Last week	Initial Prod. This week	Initial Prod. Last week
Arkansas	0	2	0	2	0	0	0	0	0	987
California	9	2	9	2	0	0	0	0	18,100	625
Illinois	0	0	0	0	0	0	0	0	0	0
Indiana	0	6	0	0	0	2	0	4	0	0
Kansas	7	11	5	4	1	4	1	3	3,650	1,275
Kentucky	2	9	1	3	0	5	1	1	35	145
Louisiana	5	5	4	1	0	1	1	3	3,898	25
Michigan	5	2	1	1	4	1	0	0	2,400	750
Mississippi	1	2	0	0	1	1	0	1	0	0
New Mexico	1	0	0	0	0	0	1	0	0	0
New York	3	5	3	4	0	1	0	0	17	15
Ohio	17	14	1	3	11	6	5	5	3	54
Oklahoma	9	9	2	5	2	1	5	3	50	33,250
Pennsylvania	14	20	8	16	5	3	1	1	21	55
Texas	136	157	122	133	2	4	12	20	958,560	958,120
West Virginia	6	7	2	1	4	2	0	4	51	1
Totals	214	251	158	175	30	31	26	45	986,785	995,302
Increase	..	37	..	17	..	1	..	19	....	8,517
Decrease										

Comparison of Permits Granted for New Wells

State—	For Week Ending Oct. 24	Previous Week	This Week 1930	Total This Month	This Month 1930	Total this Year	Total This Date Last Year	1930 Year Total
Arkansas	1	0	4	2	11	29	91	108
California	1	7	14	18	122	305	761	922
Louisiana	12	1	26	25	81	270	843	948
Kansas	9	3	12	31	80	374	844	944
Oklahoma	15	15	50	54	218	690	2,510	2,830
Texas	198	243	137	825	492	5,438	6,294	7,052
Total	236	269	243	955	1,004	7,106	11,343	12,804

MARKET SECTION

Refinery Gasoline Output Must Be Reduced 12 Per Cent

Runs of crude to stills last week declined about 42,000 barrels, to a total (Bureau of Mines basis) of 2,472,000 barrels. Stocks of gasoline, however, increased about 382,000 barrels, indicating that slackening demand has made its seasonal appearance. This is the second consecutive week that gasoline stocks have increased.

A study of the refined oil situation to date and a projected view of the conditions that will prevail at present rates of operation cannot fail to sound a note of warning to refiners. On the basis of actual demand for gasoline, runs to stills have exceeded normal to the extent of 18,954,000 barrels since January 1. This means that the industry has manufactured an excess gasoline supply of about 8,339,000 barrels. In other words, gasoline stocks are too high to the extent indicated by this over-manufacture. Instead of there being about 37,000,000 barrels (Bureau of Mines basis) of gasoline in storage at present, stocks should have been down to about 28,800,000 barrels. At least that is what they should be in order to realize the goal set by the statistical committee of The American Petroleum Institute, by the end of this year.

Although gasoline stocks exceed normal by 8,000,000 barrels, it is not too late for refiners to take action that will correct the indicated over-supply. If runs to stills are reduced during November and December to the extent of about 12 per cent, it will be possible to realize sufficient withdrawals from storage to realize the goal of 30,000,000 barrels of gasoline in storage on December 31. To do that will mean an immediate reduction in still runs to a total for the United States of 2,175,000 barrels.

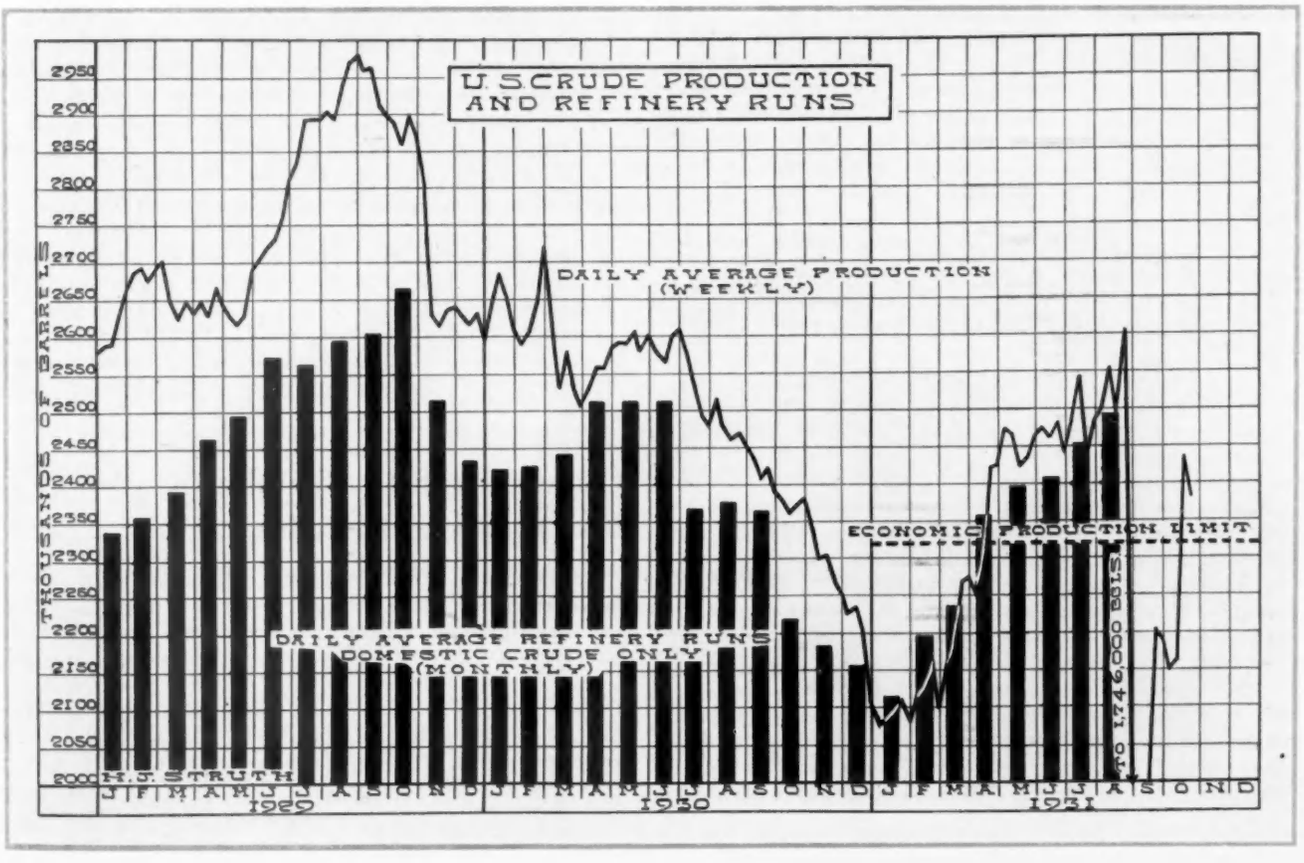
It is up to every refiner in the United States to realize the situation that confronts the industry under present operating conditions, and to effect an immediate reduction in still runs of about 12 per cent. If that is done, the industry will wind up this year in an enviable state of equilibrium and all branches will benefit by the market improvement which is bound to follow. Much has been accomplished in the direction of production control this year, but there is still more to be accomplished if the industry expects to benefit from such effort.

Houston Oil Terminal Properties Bought By Humble Company

Houston. — Humble Oil & Refining Company, October 28, purchased control of Houston Oil Terminal Company for a consideration of about $500,000, of which roughly $400,000 is represented by physical properties of Houston Oil Terminal Company and about $100,000 represented by inventories of supplies on hand.

Houston Oil Terminal Company for several years has operated a small refinery on the north side of the Houston ship channel, near the turning basin. This plant has been engaged primarily in furnishing fuel oil to steamers visiting the port of Houston and to a few industrial plants located in the manufacturing district. In addition to this activity, the plant also manufactured asphalt products from the heavy West Indian and Mexican crude on which it operated.

At time of consummation of the deal involving the purchase of Houston Oil Terminal by Humble Oil & Refining Company, George L. Koehler was president and general manager of the former concern while A. E. Kerr was vice-president. No announcement has been made of any change in the directing personnel of Houston Oil Terminal at this time.



MARKET SECTION

"Oils" in the Depression

A Market Loss of More Than Eight Billion Dollars Represents Drop in Leading Issues

(From "The Lamp")

FROM 1926 to near the end of 1929 we were in a period of inflation which carried values, as translated into quotations on the New York Stock Exchange, to record high levels. In the two years since then we have been in a depression, with almost uninterrupted progress in deflating these values. The enthusiasm which made buyers of us all in the belief that we had entered a new financial and economic era, in which first principles no longer applied, has been succeeded by a wave of pessimism which has gone as far toward the other extreme.

Between top prices for stocks and the deflation there has occurred such an apparent contraction of wealth as to explain without further reasons the public's loss of confidence, which has been expressed in reduced purchasing. The ex-paper millionaires of 1929 will require some time to re-orient themselves and become accustomed to the new set of controlling conditions.

Oil shares are not especially popular with professional traders, and their fluctuation is therefore a somewhat conservative criterion of the change which has taken place in the general list. Many instances can be found of industrials which rose more rapidly than oils during the inflation and which have been liquidated more drastically since. Other industries benefited more through rising prices for their products and stimulated sales between 1926 and 1929, and conversely, have suffered more of a shrinkage in business in the past two years. For this reason, a summarized story of the course of prices of oil stocks is a pretty fair picture of what has happened to security holders, carried into the exhilarated atmosphere of a record bull market, and without opportunity for acclimatization, dropped into the cold air of lower strata, all in a brief period of from three to five years.

For this purpose, the market values at different dates of thirty-four leading oil companies have been studied.

We find that at their highest market quotations in 1926 these companies had a total common stock value of $6,945,243,000.

How did these stocks fare during inflation?

At their high points in 1929, the market quoted a total value for the 34 companies of $10,916,773,000. Since it is popularly estimated that the actual investment in the American petroleum business is in the neighborhood of eleven billions, it will appear that the market in the latter part of 1929 put a value of substantially this amount on the common stocks of 34 companies. While these are the largest in the industry, there are also thousands of smaller companies with a very large aggregate investment.

The average rise in the value of the group was 57.18 per cent.

Then came the deluge of selling and rapid fall in prices. To the date of writing almost all of these issues made their lowest prices of many years on October 8. Their bear market values as represented by quotations on the New York Stock Exchange have been calculated as of that date.

Stocks rated at nearly eleven billions in 1929 were down to $2,705,850,000. That is to say, $100 bought as much of an interest in the petroleum business on October 8, 1931, as $400 did in 1929. In many instances stocks have been selling for less than their current book values after depreciation. The declines are even more impressive if looked at in respect to particular companies. One of the largest of the integrated companies dropped from $246,000,000 to less than $34,000,000, another from $111,000,000 to $11,000,000, and a third from $141,000,000 to $40,000,000. Declines almost as great were the case with other members of the group.

Of course, no such change in actual values has taken place, either during the advance or in the slump. In the matter of physical assets there has been an increase since the market broke. The price of stocks may be said to represent the consolidated view of the investing public of values at the time quotations are made, but this view is affected by many changing factors, such as the actual worth of assets behind a stock, the earning power, money conditions, etc. The assets remain, but for the time being earning power has fallen until deficits from operations have been the rule rather than surpluses. Not all of these companies make interim reports; a dozen of them which published earnings for the first six months of 1931 showed a combined total loss of about $25,000,000, and a deficit after paying dividends of three times that amount. No large oil company which so far reported has shown a profit.

To accept such a situation as permanent or even as of very long duration is as foolish as hindsight shows the unrestrained enthusiasm of 1929 to have been. Business is going through a difficult time of reorganization, and reconciling itself to a lower price basis. In doing this it has had to take tremendous bookkeeping losses in inventories, most of which had to be absorbed in a single year. The petroleum industry, as has been proved by an increase in domestic demand for gasoline even in 1931, is indispensable in the scheme of civilization, and it will share proportionately with other essential industries in the return to prosperity.

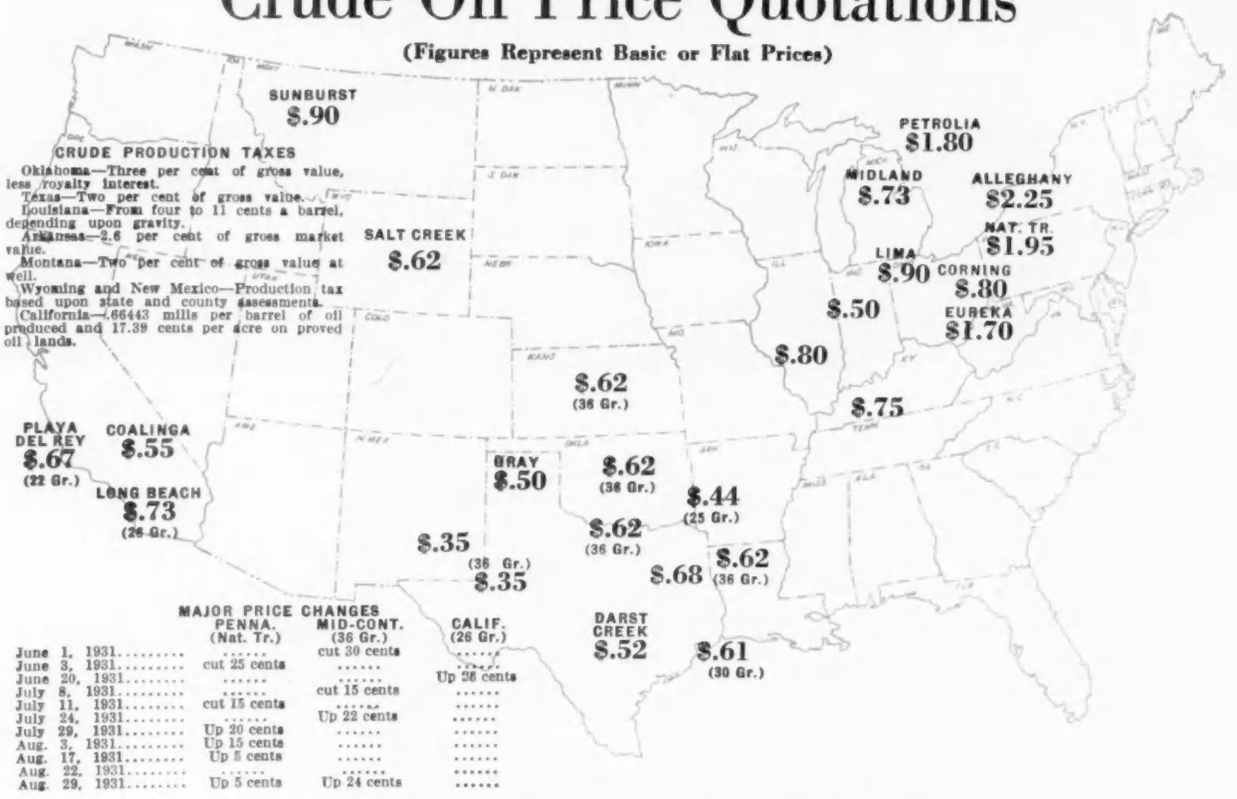
Commission Sets Allowables For All Texas Oil Fields

Austin, Texas.—The Railroad Commission of Texas announced on Friday, October 16, the following allowables for the oil fields of Texas: Yates, 65,000 barrels; Crane-Upton, 16,700 barrels; Ector County, 6300 barrels; Howard-Glasscock, 26,000 barrels; Winkler County, 40,000 barrels; Darst Creek, 18,000 barrels; Salt Flat, 10,000 barrels; West Central Texas, 30,000 barrels; North Texas, 57,000 barrels, and Van (tentative), 50,000 barrels.

This follows out the program of a 10 per cent cut in all fields with the exception of the Panhandle.

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices)



MAJOR PRICE CHANGES

	PENNA. (Nat. Tr.)	MID-CONT. (36 Gr.)	CALIF. (26 Gr.)
June 1, 1931.....	.....	cut 30 cents	.....
June 8, 1931.....	cut 25 cents	.....	.....
June 20, 1931.....	.....	.....	Up 26 cents
July 8, 1931.....	.....	cut 15 cents	.....
July 11, 1931.....	cut 15 cents	.....	.....
July 24, 1931.....	.....	Up 22 cents	.....
July 29, 1931.....	Up 20 cents	.....	.....
Aug. 3, 1931.....	Up 15 cents	.....	.....
Aug. 17, 1931.....	Up 5 cents	.....	.....
Aug. 22, 1931.....	.....	.....	.....
Aug. 29, 1931.....	Up 5 cents	Up 24 cents	.....

Official Postings and Differentials

(Revised to October 27, 1931)

California: (Effective June 19, 1931.

Signal Hill, Seal Beach and Alamitos Heights: 14 to 22.9 gravity 65 cents; 23 gravity, 67 cents with differential of two cents for each degree upward. Top price for Signal Hill, 30 gravity, 81 cents; top price Seal Beach and Alamitos Heights, 27 gravity, 75 cents.

Huntington Beach: 14 to 21 gravity, 65 cents; 22 gravity, 66 cents with differential of two cents for each degree upward. Top price, 27 gravity, 76 cents.

Inglewood: 14 to 19.9 gravity 65 cents; 20 gravity 66 cents with differential of two cents for each degree upward. Top price, 25 gravity 76 cents.

Playa Del Rey: 19 to 20.9 gravity 65 cents with differential of one cent for each degree upward. Top price, 25 gravity, 70 cents.

Olinda and Brea Canyon: 14 to 19.9 gravity 65 cents; 20 gravity 66 cents; 21 gravity 67 cents; 22 gravity 68 cents with differential of two cents for each degree upward. Top price, 28 gravity, 80 cents.

Coyote Hills: 14 to 22.9 gravity 65 cents; 20 gravity 66 cents; 21 gravity 67 cents with differential of two cents for each degree upward. Top price, 28 gravity, 79 cents.

Santa Fe Springs: 24 to 26.9 gravity 65 cents; 27 gravity 68 cents; 28 gravity 71 cents; 29 gravity 73 cents; 30 gravity 75 cents; 31 gravity 78 cents; 32 gravity 80 cents; 33 gravity 83 cents; 34 gravity 85 cents; 35 gravity and above 87 cents.

Whittier, La Habra and Montebello: 65 cents a barrel.

Torrance: 14 to 21.9 gravity 65 cents with differential of one cent for each degree to 25 gravity and two-cent differential for 25 gravity. Top price, 25 gravity, 70 cents.

Richfield: 14 to 20.9 gravity 65 cents; 21 gravity 66 cents with differential of two cents for each degree upward. Top price, 25 gravity, 74 cents.

Elwood: 33 gravity 79 cents; 34 gravity 81 cents with differential of three cents for each degree upward. Top price, 36 gravity, 87 cents.

Newhall, McKittrick and Kern River: 55 cents a barrel.

Midway-Sunset, Elk Hills and Buena Vista Hills: 14 to 21.9 gravity 55 cents; 22 gravity 56 cents; 23 gravity 58 cents; 24 gravity 61 cents; 25 gravity 64 cents; 26 gravity 66 cents; 27 gravity 68 cents; 28 gravity 71 cents; 29 gravity 74 cents; 30 gravity 76 cents.

Los Hills: 14 to 20.9 gravity 55 cents; 21 gravity 57 cents; 22 gravity 59 cents; 23 gravity 60 cents; 24 gravity 62 cents; 25 gravity 64 cents; 26 gravity 66 cents; 27 gravity 67 cents; 28 gravity 69 cents; 29 gravity 71 cents; 30 gravity 72 cents.

Coalinga: 14 to 24.9 gravity 55 cents; 25 gravity 57 cents.

Wheeler Ridge: 55 cents a barrel.

Athens, Dominguez and Rosecrans: 24 to 24.9 gravity 69 cents with differential of two cents for each degree upward. Top price, 34 gravity, 89 cents a barrel.

Oklahoma, Kansas, North Texas (Effective Aug. 22, 1931).

Flat Prices.

Oklahoma: Cushing, Yale, Oklahoma City, Morrison, Wewoka and Seminole: 68 cents. Cement, Duncan, Walters: 60 cents; Healdton: 37 cents; Hewitt and Graham: 52 cents.

North and Central Texas: Burkburnett, Archer, Stephens, Henrietta, Electra, Comanche and Olden: 68 cents; East Texas: 68 cents.

Gravity Scale Prices: Below 28 gravity 44 cents a barrel with differential of 2 cents for each degree beginning with 28 and ending with 40 gravity and above. Top price 70 cents a barrel.

Texas Panhandle: (Effective Aug. 22, 1931).

Gray County: Below 35 gravity, 46 cents with differential of 2 cents for each degree beginning with 35 and ending with 40 gravity and above. Top price 58 cents a barrel.

Carson and Hutchinson Counties: Below 35 gravity, 41 cents with differential of 2 cents for each degree beginning with 35 and ending with 40 and above. Top price 53 cents a barrel.

West Texas: (Effective Aug. 22, 1931.)

Crane, Upton, Crockett, Ector, Howard, Glasscock, Pecos and Winkler Counties, Texas, and Lea County, New Mexico, 35 cents flat.

Southwest Texas: (Effective Aug. 22, 1931.)

Refugio heavy oil 60 cents a barrel.

Refugio light oil—same as Gulf Coast (see below).

Gulf Coast: (Effective Aug. 22, 1931.)

Goose Creek, Hull, Liberty, Orange, Pierce Junction, Mykawa, Moss Bluff, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugarland, West Columbia, Humble and Refugio Light: Below 25 gravity 55 cents, with differential of 1 cent for each degree beginning with 25 gravity and ending with 35 and above. Top price, 66 cents a barrel.

Mirando: 60 cents; **Salt Flat,** 52 cents; **Darst Creek,** 52 cents; **Pettus:** 70 cents; **Markham:** 52 cents.

East Texas: (Effective Sept. 2) flat price, 68 cents.

North Louisiana and Arkansas: (Effective Aug. 22, 1931.)

Caddo, Homer, Haynesville, Bull Bayou, Sabine, Cricton, De-Soto, El Dorado, Cotton Valley, Sarepta, Cartersville: Below 29 gravity 44 cents with differential of 1 cent for each degree beginning with 29 gravity and ending with 40 and above. Top price 70 cents a barrel.

Smackover: 52 cents.

Rocky Mountain States: (Effective Aug. 22, 1931).

Salt Creek: Below 29 gravity 46 cents; 38 gravity and above 66 cents.

Elk Basin and Grass Creek: 90 cents; **Big Muddy:** 68 cents; **Lance Creek:** 105 cents; **Rock Creek:** 70 cents; **Sunburst:** 90 cents; **Osage:** 98 cents; **Cat Creek:** 65 cents; **Pondera:** 70 cents; **Hogback, New Mexico:** 72 cents.

Eastern States: (Effective Aug. 24, 1931).

Lima: 90 cents; **Indiana:** 50 cents; **Illinois:** 80 cents; **Princeton:** 80 cents; **Wooster: $1.00; Western Kentucky:** 75 cents.

Pennsylvania: (Effective Sept. 16, 1931). **Bradford District: $2.25; National Transit oil: $1.95; Southwest Pennsylvania Pipe Line oil: $1.80; Eureka Pipe Line oil: $1.70; Buckeye Pipe Line oil: $1.60; Corning crude:** 80 cents.

Michigan: (Effective Aug. 22, 1931). **Midland:** 73 cents a barrel. **Muskegon:** Same posting as Mid-Continent; 44 cents to 70 cents a barrel.

Canada: (Effective Aug. 24, 1931).. **Petrolia: $1.80; Oil Springs: $1.87.**

Save Money in East Texas by using BRIDGEPORT SERVICE!

MANY GOOD BARGAINS IN DEPENDABLE USED EQUIPMENT
ECONOMICAL RENTAL SERVICE TO MAKE YOU MORE PROFIT

BRIDGEPORT PRICES!

President A. A. Buschow invites your business!

While BRIDGEPORT cannot always guarantee every price to positively be the lowest, you *can* be assured that BRIDGEPORT is a leader in values, quality and service, a dependable source of supply. Again, BRIDGEPORT'S terms are always most reasonable.

CASING

All BRIDGEPORT used casing has been thoroughly inspected, every joint drifted, new collars and threads, if necessary, always ready to run.

Call or Wire for Prices.

Either Kilgore or Camps, Texas stores will promptly deliver to your well (road conditions permitting)

20″ Lapweld — Like new.
15½″ Lapweld — Perfect.
10″ and 12½″ Lapweld Surface Casing.
8¼″ Lapweld, either 8 or 10 thread.
6⅝″ (7″ O.D.) Lapweld.
6⅝″ (7″ O.D.) Seamless.
6¼″ Seamless.

You can save real money by using 6¼″ Seamless.

LINE PIPE

BRIDGEPORT has on hand good grades:

2″ Long Collars 1800 lb. test.
3″ perfectly sound, good threads.
4″ every joint guaranteed.

DRILL PIPE

Every piece is straight. Tool Joints are in good condition.

6⅝″ in Singles or Doubles—priced from 75c to $1.50 per foot.
4″ Singles, all like new.
3½″ Singles, seen very little service. Also, complete string of New 3½″.

BRIDGEPORT RENTS CASING AND DRILL PIPE

Casing, Line Pipe and Drill Pipe with Tool Joints on rented at reasonable prices.

THE OIL SITUATION

If oil men were called upon to discuss the present situation in their business with the general public, some embarrassment might result.

The facts are that few businesses today are in as good condition, regardless of what appears in the press of the country. Certainly it is true that profits are far from satisfactory, and most investments within the industry are seemingly worth less than they should be, on the market.

However, oil men are among the few who have actually *got somewhere. Today drilling is under control,* and *production of crude and refined products is being held within the demand.* The Oil Industry has proved its claim to being one of the world's greatest industries. Other lines of business would do well, if they could find themselves as far along on the road to recovery.

Of course the Oil Industry still has its troubles. The next step will be *More Satisfactory Profits and Increased Values.*

WANTED TO BUY

10,000 feet of 7″ O.D. 24 lb. Seamless Casing.
25,000 feet of 7″ O.D. 24 lb. Lapweld Casing.
2 — 14 x 7 x 18 Wilson-Snyder.
1—3 KW. Steam Generator.
1—Martin-Decker Weight Indicator.

Our Prices Are Right — Pay Cash

Stocks of Casing and Pipe carried at Kilgore and Camps, Texas, Seminole and Oklahoma City, Oklahoma, Wichita and McPherson, Kansas.

All BRIDGEPORT men are well informed and gladly furnish information and prices on Casing and Pipe for use anywhere.

Why Buy New Casing — SAVE MONEY

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Branches

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No. 3505 Woolworth Bldg., New York, N. Y.

Acreage Basis Plan Proposed For East Texas Proration

(*Continued from page* 13)

The acreage plan submitted by Roeser would limit the fields output to 400,000 barrels daily, and after the total productive territory is accurately determined, this allowance would be apportioned among the lease owners according to acreage in each tract. There are about 400 small tracts within the field, and all containing less than 20 acres would be allowed a 20-acre lease quota. In order to assure equal offset drainage the plan provides for the limiting of offset wells to the minimum production either may earn. Such a rule would place a production penalty on large lease owners having offsets to small tracts as a means of balancing withdrawals. Large tracts with few wells will be limited to a maximum of 100 acres per well, or in other words a 150-acre lease with one well would be allowed only 100 acres to participate, but the owner could drill a second well and cause the entire lease to share in the field's allowable. Some additional drilling would result from such circumstances, but at the same time a maximum production will be in effect on those favored with large tracts and few wells.

A revised survey on actual productive territory in the field may reduce the figure quoted by Roeser, and if such takes place a greater allowance will then be earned by lease owners. The undrilled and non-participating acreage within the oil area will make room for the extra allowances granted small tract owners without causing production to go beyond the 400,000-barrel level. Roeser illustrated the manner of production distribution by assuming that the field has 100,000 productive acres, and with above allowable each acre would earn four barrels production daily, providing there were no exceptions. Small lease owners would be assured of 80 barrels daily because of being classed as 20-acre tracts, while an operator with a 60-acre lease would receive 240 barrels production, providing offsets did not earn less. In either case no advantage is gained by having all locations on production, and it is this provision that directs a blow at unnecessary drilling. Numerous cases will arise where special concessions will have to be made to operators, and it is planned to have a committee of seven operators to arbitrate differences, and take care of inequalities, even though some sacrifices will be forced upon neighboring lease owners. This idea was advanced by R. L. Wheelock, Corsicana operator.

Jake Hamon, Jr., Ardmore, Oklahoma, made the motion that resulted in the acreage plan being unanimously endorsed by those present, and Acting Chairman Edward T. Moore agreed to appoint a committee of seven to prepare a resolution to be submitted to state authorities. This resolution will recommend an immediate change in the proration plan.

Among those offering favorable comments on the acreage plan of proration were: H. L. Hunt, Tyler; Freeman W. Burford, East Texas Refining Company; James R. Gahan, Tidal Oil Company; Jake Hamon, Jr.; J. Edgar Pew, Sun Oil Company; E. H. Blum, Atlantic Oil Producing Company; R. L. Wheelock; W. L. Todd, Columbia Oil & Gas Company; E. L. Smith, E. L. Smith Oil Company; W. B. Hamilton, Wichita Falls; E. G. Allen, Shell Petroleum Corporation; Sam McCorkle, Mexia; Colonel J. Lewis Thompson, Longview; John Mouser, Prairie Oil & Gas Company, and others.

Announcement was made at the meeting that Gulf Production Company, Humble Oil & Refining Company, and Sinclair Oil & Gas Company favored the acreage plan over the method now in use.

Vice President Mentioned As Oil Industry Dictator

Tulsa.—Another move to have a dictator named for the petroleum industry has been started in advance of the meeting of the American Petroleum Institute in Chicago, November 10, 11 and 12. This time it is Charles Curtis, vice-president of the United States, who is mentioned for the post. This is shooting a little lower than a previous movement of this type, when Calvin Coolidge was being put forward as the man to satisfy the conflicting elements of the industry.

Another man once put forward as capable of uniting the petroleum industry and keeping its conflicting interests in line was General Pershing. Neither Coolidge nor Pershing ever came before any organization within the petroleum industry. Whether an umpire or dictator ever was seriously considered for a post within the petroleum industry is not publicly known.

In fact there is nothing more than rumor to support the possibility of Vice-President Curtis becoming a figure around which the petroleum industry would strive to satisfy the contentions that exist within that industry. The record of the vice president, however, would seem to increase hostility rather than reduce it.

The movement for a tariff on crude oil imports had been started in the Mid-Continent before the last national election. Curtis, whose home is in Kansas, came to Tulsa on his speaking tour as a candidate for the vice presidency and when he left the tariff element of this area felt confident that the administration would favor a tariff for the petroleum industry. Frequently since then meetings to consider the tariff question have brought forth vitriolic condemnation of the stand that Curtis took as a candidate when compared with the stand the Republican administration has taken in regard to a tariff.

Curtis is a character whose career fits into the ideal of the youth of America. He started as a jockey and came to be vice-president of the United States. Between these he had been a successful lawyer, a prosecuting attorney, a congressman and a United States Senator. He was the Republican leader of the Senate in his last three years in that body.

From the Pacific Coast comes a plan for the co-ordination of the efforts of numerous factors to stabilize the oil industry, with concentration of control under the guidance of one man, as an arbiter or co-ordinator. This plan has been under consideration by the board of directors of Oil Producers Sales Agency, and E. B. Reeser, president of the American Petroleum Institute, has been considered for the position. Discussing the plan, Rush M. Blodget, general manager of Oil Producers Sales Agency, said in part:

"Our directors have felt that if a man could be secured for this position whose experience covers the entire industry in all of its ramifications; whose fairness, poise and sense of justice were unquestioned, and who had the confidence of all operators, refiners and marketers, large and small, that it would benefit the industry to give him an opportunity to point the way to each and all of us.

"The name of E. B. Reeser, now president of the American Petroleum Institute, has been and is being seriously considered. However, owing to his important business connections, it has not been considered advisable to mention his name without prior authorization.

"The responsibility of sponsoring this movement could

not, and can not now be assumed by the Agency without the wholehearted and cordial co-operation of all factors in the industry. The refiners and independent producers have been interviewed during the past several weeks, to ascertain their position in the matter, and to secure in advance assurance of their support. Many have already signified their approval of the plan, and the hope has been expressed that the industry may see its way clear to make the experiment.

"The man selected for the position would be in no sense a czar, but rather an arbiter or co-ordinator, an adjuster of difficulties now current in the industry. His opinions, with the facts before him, would command the respect of the public, concerned chiefly in the purhase of petroleum products; would be fair to the men in the industry, and would secure the wholehearted co-operation of all factors concerned."

Reeser May Accept

Tulsa.—E. B. Reeser, president of Barnsdall Oil Company and also president of the American Petroleum Institute has been tendered the position of mediator in California oil affairs and may accept according to reports in the Mid-Continent. One report indicated that his official position would be that of head of the recently organized Oil Producers Sales Agency in California but that his actual duties will be much wider in scope than simply heading the agency.

Standard of California Merger With New Jersey Progressing

New York.—Plans for merging Standard Oil Company of New Jersey and Standard Oil Company of California are due for further discussion when accountants have completed inventories and valuations on a common basis. Termination of this work has not been determined and hence no date for further conference between the two companies has been set. Commenting upon these negotiations and their progress, "The Lamp," official publication of Standard Oil Company of New Jersey has this to say in its current issue:

"Late in August the presidents of Standard Oil Company of New Jersey and Standard Oil Company of California, accompanied by counsel and other associates, met to discuss a merger of the two companies. Afterwards they issued a joint statement to the effect that they regarded a merger as logical and advantageous, with no insurmountable obstacles in sight. Their reasons for looking favorably upon such a proposal were stated as follows:

"Standard Oil Company of California holds important domestic crude oil reserves but is without any important foreign crude reserves and possesses only limited distributing facilities abroad. On the other hand, Standard Oil Company of New Jersey has limited domestic crude oil reserves but a large foreign production, and an important system of distribution outside the United States.

"In its domestic marketing the New Jersey company operates on the Atlantic seaboard and the Gulf Coast states, Standard Oil Company of California in the states and territories west of the Rocky Mountains. Hence, the operations of the two companies are in effect complementary and the proposed merger would make possible the most economic employment of their reserves and facilities.

"Today, each of the two companies is handicapped through being able to meet only locally the competition offered by other large oil corporations which have nationwide systems of distribution. To meet the competition of such corporations, both the two companies referred to feel under necessity of enlarging the territories in which they market their products. This need can be met by each company expanding separately or through consolidation. To adopt the former policy would involve a costly duplication of existing facilities which are already more than adequate to handle the trade, with consequent economic waste and without any compensating benefit. A merger would accomplish the same result without wasteful duplication and would utilize the complementary facilities of the two companies. Furthermore, a merger would make possible many important economies, such as the use of more accessible points of supply and the elimination of cross hauls.

"With respect to the two principal items of oil company operation, namely, crude oil production and gasoline sales, the proposed merger, on the basis of 1930 figures, would involve approximately 10 per cent of the total crude oil production and approximately 18 per cent of the total gasoline business of the United States, domestic and export."

"At this meeting no agreement was reached and the terms under which an exchange of shares might be effected were not discussed. Subsequently, representatives of the two companies began setting up inventories of present values worked out on a common basis, and much other detail work necessary before terms can be discussed further was undertaken. When these data are complete another meeting between the officers of the two companies will be held to determine a basis of an equitable plan of merger. The priliminary work of accountants and others has not been finished and hence no date has been set for the next meeting."

New York.—Kenneth R. Kingsbury, president, and Oscar Sutro, director and general counsel of Standard Oil Company of California, arrived in New York Monday and conferred with Walter C. Teagle, presumably in connection with the proposed merger between the California and the New Jersey companies.

Regarding conditions in California, Mr. Kingsbury said "We have set a production limit of 500,000 barrels a day for the state and have been able to keep within that limit without passing additional laws. Drilling activities are virtually at a standstill except necessary operations on leaseholds. Our marketing situation is not quite so well under control, because of price cutting by independents. However, as soon as we are able to eliminate this disturbing element, oil companies in California should be able to make money."

Further Investigation of Gas Companies to Continue

Austin, Texas.—In an opinion rendered the railroad commission by Fred Upchurch, assistant attorney general, assigned to the oil and gas division of the state railroad commission, it was determined that the gas utilities division of the commission will have another fund of $70,000 available on January 1 to continue its work of investigating and evaluating the gas companies of Texas for the purpose of determination of reasonable rates.

The department feared that the appropriation would be available on the fiscal year basis, which would have meant that after the present investigation of Lone Star Gas Company was completed, it would be necessary to wait until the middle of the coming year before another investigation could be begun.

All Angles of Unit Operation On Institute Annual Program

Chicago.—Both the engineering and the legal aspects of the unitization scheme for producing oil will be treated along with a general discussion when the subject is presented for discussion Wednesday afternoon, November 11, in the general session of the division of production of the American Petroleum Institute, which will hold its twelfth annual meeting at Chicago this year November 10 to 12.

Although the principles involved are already undergoing experimentation in several oil fields, they embrace a relatively new conception of crude oil production, and represent an attempt at economic readjustment of the producing branch of the petroleum industry.

The plan which will be discussed embraces the principle that each interest in an oil pool is entitled to an equitable share of its oil and gas, as opposed to the present system of letting each capture as much as possible. It contemplates development and operation of oil pools on a basis fair and equitable not only to all interests in the pool, but to the public as well. It encourages utilization of the most advanced scientific and engineering methods of obtaining economically the greatest possible ultimate recovery, in order that physical and financial waste may be reduced to a minimum. It goes so far even as to provide for the enunciation of basic scientific and engineering principles it is deemed advisable to apply to the development of any oil producing area.

It is believed the plan, by substituting such co-operation of interests and co-ordination of activities as is possible under existing law, will tend to stabilize oil production by eliminating incipient oil field "booms," relieving, through uniformity of development and operation the competitive chaos and waste that ordinarily attend them, and assuring an even and uninterrupted flow of crude oil and natural gas sufficient to meet demand. It is regarded as an efficient means of encouraging petroleum conservation and if supporting efforts now being made uniformly to develop and administer state conservation laws.

J. Edgar Pew, Sun Oil Company, Philadelphia, will discuss the policies involved. John R. Suman, Humble Oil & Refining Company, Houston, will consider the plan from the engineering point of view, and W. P. Z. German, Skelly Oil Company, Tulsa, will review the legal aspects. Progress made in the division's work during the past year will be covered in the report of Robert R. Penn, Penn Oil Company, Dallas, as chairman of the division's general committee.

The division of production will hold two group sessions, one at 9:30 a.m. Wednesday, November 11, for consideration of corrosion of oil field equipment, and the second at the same hour Thursday, November 12, on the general subject of drilling and production practice.

Corrosion is a source of constant annoyance and expense to the petroleum industry and particularly to operators of pipe lines, who have spent millions of dollars during the past 20 years in an effort to reduce corrosion losses caused by soil corrosivity, climatic conditions and other agencies. Some time ago the Institute, with the co-operation of pipe line coating manufacturers and the U. S. Bureau of Standards, undertook a comprehensive series of field tests. During the current year buried specimens of pipe were uncovered and subjected to detailed inspection to determine the success of various means of protection employed. Dr. Gordon N. Scott, of the Bureau of Standards, who as research associate has been directing the tests, will report on his findings at the Wednesday morning session. A paper entitled, "Evaluation of Production Corrosion Losses," will be presented by Stanley Gill and Fred W. Karl, of The Gulf Companies, and "The Relation of Pipe Line Currents and Soil Resistivity to Corrosion" will be considered by C. R. Weidner, Prairie Pipe Line Company.

The latest developments in drilling and production practice will be reported upon at the Thursday morning group session, the program being designed to interest particularly executives, production engineers, field superintendents, and independent operators. Papers presented in a general sense will sum up progress along this line during the year, with detailed description of more noteworthy developments.

J. R. Gignoux, Shell Oil Company of California, as chairman of the division's topical committee on drilling practice, will speak on "Developments and Improvements in Drilling Practice and Equipment," and W. W. Scott, Humble Oil & Refining Company, chairman of the topical committee on production practice, will present a paper on "Improvement and Trends in Production Practice."

Comparatively few meetings of division of production committees will be held at Chicago because of progress made at the mid-year meeting at Dallas last June. However, the central committee on unit operation and the general committee will meet Monday, and the central committee on drilling and production practice Tuesday.

Oklahoma Commission to Issue New Orders for All Fields

Tulsa.—The Oklahoma Corporation Commission caused a two-day hearing Tuesday afternoon, October 27, and announced that proration orders for all state fields for November and December would be issued late this week. One important decision already announced was the cancellation of under-production accumulated during the 65-day military shut-down.

Oil producers contended that with the field re-opened they should be allowed to produce the amount of oil which would have been allowable had not martial law been in effect. Companies which took their entire August allowable during the first four days of the month will not be charged with over-production. This ruling was decidedly unfavorable to the few companies which had entered a voluntary shut-down agreement prior to the declaration of martial law.

Cicero I. Murray, military supervisor of production, made recommendations that would bring about placing of chokes on wells and locks on flow lines to prevent unfair taking of crude.

Most of the first day was devoted to testimony of purchasers who nominated 545,000 barrels daily requirement from the state and approximately 190,000 barrels for the Oklahoma City pool. These figures are to be compared with those submitted by R. M. Young, Carter Oil Company, who estimated a daily demand of 525,000 barrels for November and 500,000 barrels for December. He said that with production now running about 490,000 barrels daily there were from 35,000 to 40,000 barrels coming from Oklahoma storage each day.

Personal Mention—Men You Know

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DR. R. C. Beckstrom, who recently returned to the United States after spending slightly more than a year in Russia, has been greatly in demand as a luncheon speaker since his arrival in Tulsa.

DR. R. C. BECKSTROM

Dr. Beckstrom, formerly a member of the engineering faculties of the University of Oklahoma and the University of Tulsa, first went to Russia in October, 1929, and returned the following January. After spending six months in the United States he returned to Russia and spent approximately one year in the study of emulsion and paraffin problems in connection with oil production. Dr. Beckstrom speaks interestingly of the Soviet, both in regard to its oil industry and general conditions. After talking with him one cannot help but take issue with George Bernard Shaw, who apparently was allowed to see only the most desirable conditions. In his role of petroleum engineer for the U. S. S. R. Dr. Beckstrom had the privilege of visiting many of the outstanding oil pools of the country. He is now making his home in Tulsa.

W. H. GRAY, whose connection with the petroleum industry dated back to Spindle Top, died in Tulsa, October 22, following a brief illness. His body was forwarded to San Antonio for burial October 23. He was president of Pawnee Oil Production Company.

He was born at Overton, Texas and later came to be county attorney of Jefferson County. His part in the ouster proceedings of the State of Texas against Waters-Pierce Oil Company brought him national prominence. He served as a special assistant attorney general in that trial, which resulted in this former branch of the old Standard Oil Company being assessed a fine of $1,500,000 and being outlawed from Texas.

Gray came to Oklahoma in 1912 and was an oil producer in both Oklahoma and Texas. He formerly was president of Aztec Oil Company. In 1921 he was elected president of the National Association of Independent Oil Producers. The organization became inactive a few years later.

One of his long fights was for a tariff on crude oil imports. He took this up in 1918 and was active in all the succeeding efforts to bring a tariff measure through Congress. In recent years he had been in ill health.

His sister Mrs. A. C. Stanfield of San Antonio, Texas was present at his death. Earle B. Mayfield, former senator from Texas, was a foster brother.

H. G. SEIDEL, of Paris, director of Standard Oil Company of New Jersey and head of the company's French and Roumanian subsidiaries, is expected to arrive shortly in New York for a visit to the general offices at 26 Broadway.

OFFICERS of the newly organized California Royalty Owners' Association include E. W. Clark, president; G. F. Detrick, vice president; E. F. Hyland, secretary; P. F. Myers, assistant secretary; Abe Garfinkle, treasurer; and John Wentz, director.

C. P. Holdredge, geologist and petroleum engineer, has opened an office at 624 Consolidated building, Los Angeles, and will do consulting work.

F. R. PEMBERTON, for several years chief geologist and head of the field department for Petroleum Securities Company of Los Angeles, has resigned and will take an extended vacation before announcing his future plans. R. S. Lytle, formerly assistant to Pemberton, will assume charge of field operations.

L. J. READY, natural gas engineer, is completing a report for the city of San Diego, relative to the feasibility of bringing gas to the city to replace the artificial product now in use.

A. C. RUBEL, manager of field operations for Union Oil Company of California, was the principal speaker at the monthly dinner meeting of the Petroleum Accountants Society of Los Angeles, held October 22. He spoke on "Economies in Drilling and Producing Methods."

F. E. BRANTLY, president of Drilling and Exploration Company, Inc., 25 Broadway, New York City, has returned from Canada where the company has been engaged in geophysical work with the McCollum Geograph, and is now rigging up to drill a test well for gas in the Three Rivers district, northeast of Montreal.

LATEN STANBERRY

LATEN STANBERRY, recently appointed chief of the gas utilities division of the Railroad Commission of Texas, and who will have charge of the investigation of the gas companies of the state for the purpose of determining fair and reasonable rates, is a state official who is fitted for his office through wide experience extending over a long period of years. He has been connected with the oil and gas division of the commission since it was organized, except for two years spent in gas field work, during which time he worked in the fields in Southwest Texas, East Texas and Louisiana, for one of the largest of the gas producing companies.

He returned to the railroad commission in 1929 to take up work in the gas utilities division, and has recently been appointed head of the department. He is tactful, fair, and shrewd, which will be of value to him in administering the office which he now holds.

(He was also one of the best cotton pickers Ellis County ever produced.)

▼ PERSONAL MENTION—MEN YOU KNOW ▼

RALPH B. LLOYD

RALPH B. LLOYD, independent operator, royalty owner and president of the Oil Producers Sales Agency of California, believed as early as 1898 that the Ventura Avenue structure contained oil, but spent several years in trying unsuccessfully to convince others that he was right. He finally bought and leased with others several thousand acres near Ventura and succeeded in having the field developed into one of the most productive in the state. He was born at Neosho, Missouri, in 1875, but came to California in 1887. He is a graduate of the University of California and was one of two men to hold two university records at one time. His holdings in the Ventura Avenue field are among the most valuable ever developed in California.

L. C. DECIUS, chief geologist and manager of the land department for Associated Oil Company, is spending a short vacation in the Klamath River country.

C. DELLINGER AND G. A. HART, drillers from California, are afloat en route to Upper Burma to join the staff of Indo-Burmah Petroleum Company, Ltd., at Chindwin.

H. D. VIGEON, of the executive staff of Lago Petroleum Corporation, at Maracaibo, is on holiday in New York.

R. L. DIMOND, superintendent of construction and machine shop for British Controlled Oilfields, Ltd., of El Mene, Venezuela, is visiting friends and relatives at Oil City, Pennsylvania.

JOHN R. Riley of American Iron and Machine Works has returned to company headquarters in Oklahoma City after an extensive business tour through the Rocky Mountain area, visiting there among other fields the new Greasewood dome territory.

MR. AND MRS. H. K. MADDEN arrived in New York last week from Maracaibo, en route to their home at 950 William Street, Decatur, Illinois. Mr. Madden, who was formerly connected with Tropical Oil Company at El Centro, Colombia, has been connected with Lago Petroleum Corporation for the last six years, in the capacity of drilling foreman.

H. K. MADDEN

F. J. GRIFFITHS

F. J. GRIFFITHS has been elected director and president of The Timken Steel and Tube Company, Canton, Ohio, and M. T. Lothrop, president of The Timken Roller Bearing Company, has been made chairman of the Board of The Timken Steel and Tube Company.

Mr. Griffiths comes to the Timken organization with vast experience. Until recently he was associated with Republic Steel Corporation in the capacity of president of Republic Research Corporation. Mr. Griffiths began his career in the steel industry with The United Steel Company at Canton, and later helped to organize Central Steel Company in Massillon, Ohio, of which he was president and general manager. When these two companies were merged to form Central Alloy Steel Company, he was chosen chairman of the board, which office he held until the Central Alloy merger with Republic.

ARTHUR L. HENDERSON, production foreman for Mid-Kansas Oil & Gas Company in the Yates field, has been appointed general production superintendent of the West Texas district, with headquarters at Rankin, Texas. This promotion of Henderson fills the vacancy caused by the recent death of C. R. Easterly. Henderson has been with the company for the past 12 years, and took part in the drilling of the discovery well of the Yates field.

ED LIGON has been named vice president and general manager of Oil Well Improvements Company of Tulsa succeeding Harry W. Lackey. Mr. Ligon has been in Texas for the company where he was connected with the sales end of the business.

C. M. NELSON has been appointed assistant manager of the insurance and personnel department of Union Oil Company of California. He is a graduate of Dartmouth College and joined the company in 1928.

L. C. ROBERTS, JR., Fort Worth, sub-surface man for Stanolind Oil & Gas Company in Texas, was in the San Antonio territory recently.

JOE L. GROSS, independent operator, Fort Worth, was in Houston this week negotiating with local interests with a view of making a wildcat test in the Gulf Coast.

CHARLES POWER, head of the scouting department of the United Gas Company for Texas and Louisiana, is vacationing in New Mexico, but will return to Houston early in November.

Mid-Continent Association Re-Elects All Its Officials

Tulsa.—All officials of the Kansas-Oklahoma division of the Mid-Continent Oil & Gas Association were re-elected at the annual meeting in Tulsa October 20.

Alvin Richards of Pure Oil Company is president; Rush Greenslade, Gypsy Oil Company, first vice-president; John H. Kane, Phillips Petroleum Company, vice-president for northern Oklahoma; Tom C. Johnson, Wichita, vice-president for Kansas; Wirt Franklin, Ardmore, vice-president for southern Oklahoma. Harry H. Smith was re-elected secretary and treasurer.

The complete executive committee is as follows:

Paul S. Ache, Reiter-Foster Oil Corporation;
G. D. Almen, Winona Oil Company;
Guy Berry, Big Brother Oil Company, Independence, Kansas;
A. M. Blow, Amerada Petroleum Corporation;
Burdette Blue, Indian Territory Illuminating Oil Company, Bartlesville;
George S. Cole;
Robert H. Bradford, Eldorado, Kansas;
John H. Brennan, Victor Gasoline Company;
Frank Buttram, Buttram Petroleum Company, Oklahoma City;
Louis Campbell, Magnolia Petroleum Company, Oklahoma City;
H. H. Champlin, Champlin Refining Company, Enid;
Fred S. Cook, Prairie Oil & Gas Company;
O. T. Dawson, National Supply Company;
J. F. Darby, Darby Petroleum Company;
Wm. N. Davis, Phillips Petroleum Company, Bartlesville;
J. C. Denton, Mid-Continent Petroleum Corporation;
A. L. Derby, Derby Oil Company, Wichita, Kansas;
George A. Dye, H. F. Wilcox Oil & Gas Company;
T. T. Eason, Eason Oil & Gas Company, Enid;
R. S. Ellison, Stanolind Crude Oil Purchasing Company;
H. B. Fell, Simpson-Fell Company, Ardmore;
E. R. Filley, The Texas Company;
W. W. Fleming, Mid-Kansas Oil & Gas Company;
H. V. Foster, Foster Petroleum Company, Bartlesville;
Wirt Franklin (exofficio), Wirt Franklin Petroleum Corporation, Oklahoma City;
E. J. Gorman, Twin State Oil Company;
John L. Gray, Deep Rock Oil Corporation;
Rush Greenslade (exofficio), Gypsy Oil Company;
C. J. Halloran, Continental Supply Company;
C. C. Herndon, Skelly Oil Company;
Jake L. Hamon, Jr., Ardmore;
J. H. Hill, The Texas Company;
F. B. Howland, Kewanee Oil & Gas Company, Titusville, Pennsylvania;
R. R. Irwin, White Eagle Oil & Refining Company, Kansas City, Missouri;
L. B. Jackson;
T. C. Johnson (exofficio), Wichita, Kansas;
John H. Kane (ex-officio), Phillips Petroleum Company, Bartlesville;
Dana H. Kelsey, Prairie Oil & Gas Company, Independence, Kansas;
J. T. King, Kingwood Oil Company, Okmulgee;
E. E. Kirkpatrick, T. B. Slick interests;
W. L. Kistler, W. L. Kistler, Incorporated;
A. M. Landon, Independence, Kansas;
E. H. Leroux, Oklahoma Pipe Line Company, Muskogee;
Frank B. Long, Okahoma Natural Gas Corporation;
J. G. Lyons, Okmulgee;
Pat Malloy, Malloy and Company;
J. H. Markham, Jr.;
C. L. McMahon;
J. B. Milam, Chelsea;
P. M. Miskell, Empire Companies;
E. H. Moore;
D. J. Moran, Continental Oil Company, Ponca City;
Clyde Pape, Selby Oil & Gas Company;
C. B. Peters, Peters Petroleum Company;
Waite Phillips;
Ralph B. Pringle, Tidal Oil Company;
F. O. Prior, Stanolind Oil & Gas Company;
W. R. Ramsey, Oklahoma City;
E. B. Reeser, Barnsdall Oil Company;
Alvin Richards (ex-officio), Pure Oil Company;
Ralph Riley, J. A. Hull Company;
L. C. Ritts, Devonian Oil Company;
Harry H. Rogers, Exchange National Bank;
R. C. Sharp;
W. G. Skelly, Skelly Oil Company;
Harry H. Smith (ex-officio), Mid-Continent Oil & Gas Association;
R. H. Smith, The Oklahoma Company;
George W. Snedden, British-American Oil Products Company;
Charles Steele, J. E. Crosbie interests;
H. R. Straight, Empire Companies, Bartlesville;
C. W. Titus;
C. W. Tomlinson, Schermerhorn Company, Ardmore;
James A. Veasey, Carter Oil Company;
J. A. Vickers, Vickers Petroleum Company, Wichita, Kansas;
P. G. Walker, Jr.;
L. H. Wentz, Ponca City;
Max Westheimer, Westheimer and Daube, Ardmore;
W. E. Wood, Okmulgee;
C. J. Wrightsman, Wrightsman Oil Company;
Ralph B. Rouark, Shell Petroleum Corporation;
H. L. Phillips, Sinclair Oil & Gas Company;
Clay Tallman, Stanolind Crude Oil Purchasing Company;
K. Winship, Gypsy Oil Company;
Ralph Prior, Skelly Oil Company, Wichita, Kansas;
Otis McClintock, First National Bank;
J. E. Holm, Atlantic Oil Products Company;
J. H. Gardner, Gardner Petroleum Company;
S. W. Howland, Gates Oil Company, Ardmore;
A. B. Imel, Blackwell Oil & Gas Company, Cushing;
Carl Haun, Harris and Haun, Blackwell;
R. M. Young, Carter Oil Company;
Baird H. Markham, Continental Oil Company, Ponca City;
H. J. Hernstadt, Gilmer Oil Company, Ardmore;
A. M. Gee, Mid-Kansas Oil & Gas Company;
H. J. Morland, Oil Well Supply Company;
J. L. Shakely, Frick Reid Supply Corporation;
C. H. Wright, Sunray Oil Corporation;
Harry Diamond, Harry Diamond Oil Company, Holdenville;
John B. Grieves, Terlton;
E. A. Haines, Alva;
James Davis, Hazlett, Davis, Bradford and Frasier, Wichita, Kansas.

Los Angeles.—Southern Fuel Company is completing its 26-inch gas line from Kettleman Hills to Long Beach, a distance of about 225 miles. Some anxiety has been felt concerning the state action against industrial use of natural gas, where its production involves a high gas-oil ratio, but an adequate supply of gas for the new line is assured.

Oil and Gas Pipe Line Activities

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Aerial Survey and Study of Soils Among Modern Methods Used on Atlantic Line

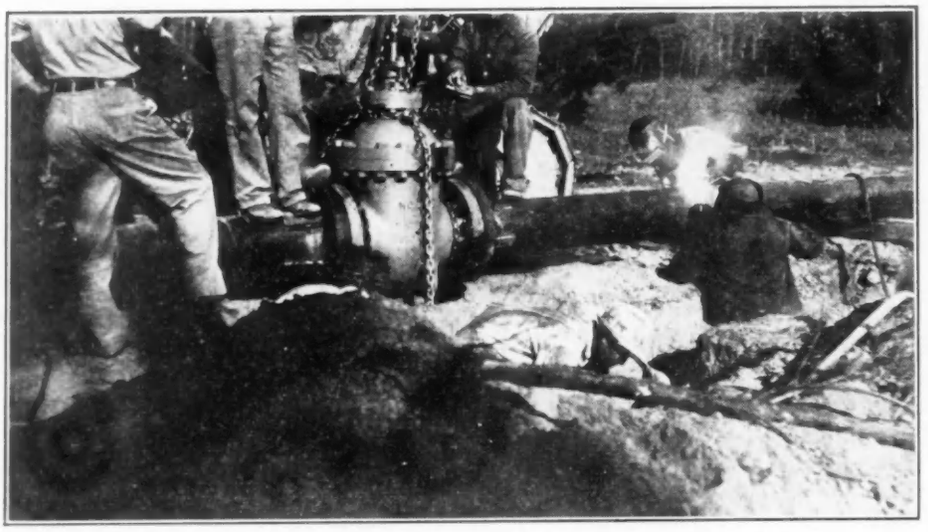
DALLAS, Texas.—Construction of Atlantic Pipe Line Company's 10-inch trunk line from the East Texas district to tankers terminals at Atreco, near Beaumont, involved nearly all the unusual conditions encountered by the average cross-country pipe line. In following an almost direct route from the field to tidewater this 180.7-mile carrier encountered forests, canyons in a mild form, all varieties of soil, streams, including a navigable channel, and swamps. Out of the dozen-odd trunk line outlets gained by the East Texas field since the first of the year, the Atlantic Pipe Line Company's system was the only one built without special effort to rush the completion, as this company preceded the line construction with a field tank farm of sufficient proportions to adequately serve its affiliated producing and crude purchasing company. Initial crude runs to Atreco were made early this month.

Invasion of the East Texas field with a private transportation unit by Atlantic Pipe Line Company was predicated on the purchase of about 2000 acres of proven oil leases by Atlantic Oil Producing Company, which functions as a producer and crude purchaser for Atlantic Refining Company in the Southwest, after the field became a major factor in the affairs of the oil industry. The East Texas pipe line unit is the fourth for Atlantic Pipe Line Company in Texas, and gives the company a well balanced system for supplying the refineries of the parent organization with varied grades of crude. Its initial pipe line project consisted of 509 miles of 10-inch line from Atreco to Midland in West Texas, with about 200 miles of ten, eight and six-inch trunk lines being added later to keep pace with expansion of activities in West Texas and New Mexico. The company has since acquired a trunk line connecting the Refugio field with tidewater facilities near Corpus Christi and more recently a field system and docks in the Barbers Hill section of the Coastal region. These lines are handling mostly low gravity crudes, while the East Texas unit is supplying a 38-40 gravity product.

Authorization for the construction of a trunk line from East Texas to tidewater was granted early in July. Mitchell-Stewart Construction Company received contract to build the line, and a sub-contract was awarded to Welding Engineering Company of Bartlesville, Oklahoma, to electric weld the line. The latter used three crews.

Absence of any appreciable amount of sulphur content

Showing imprint left in marsh land on left when first river crossing dragged into position, with second river crossing unit ready to be moved into river bed, while line on right is completed portion of carrier that will tie into one of the above units



Showing workmen making final weld on Atlantic Pipe Line Company's 10-inch trunk line near the town of Rockland.

in the East Texas crude forestalls any possibility of line corrosion problems on the inside, and for this reason the company selected a lighter weight pipe, which was supplied by National Tube Company. Seamless doubled-bell pipe, weighing 31.201 pounds per foot, with extra long "chill ring" was used in the main line. While this lighter weight pipe afforded a big saving in transportation and initial costs, it likewise has a greater capacity than ordinary line pipe because of the inside diameter being about one-quarter-inch greater, or the equivalent of about 30 barrels of oil more capacity per mile. This type of pipe has ample strength to accommodate the maximum pumping pressures of a crude trunk line. Pipe deliveries were made via water and rail.

Aerial photography was enlisted in selecting a portion of the right-of-way for the trunk line, especially on the south end in plotting a route offering the shortest mileage through the swamp belt. The line originates at the main field station and tank farm on the Horton & Dickson 70-acre site, Whitten and Hudson surveys, Gregg County, taking a parallel course on the east side of the producing area in Gregg and Rusk Counties. The only intermediate station is located at Zavalla, Angelina County. Nacogdoches County offered the greatest right-of-way difficulties, which were aggravated because of other trunk lines having traversed the county a few months previous, and in some instances right-of-way costs soared to $2.00 per rod in this county.

The four river crossings negotiated by the line, included three on the Neches and one on the Angelina River. The only major crossing of the group was encountered on the Neches River near Pure Oil Company's Smiths Bluff refinery site, where the stream is navigable, and in constant use during daylight hours. In order to comply with government rules, it was necessary to dredge a ditch across this stream in order to bury the pipe 45 feet below mean low tide. The dredge engaged for cutting this trench, which was about 20 feet wide and 1000 feet between banks, could work only at night. Two separate lines made up of 41-pound welded pipe, were strung across the Neches River at this point. One line will serve as an auxiliary in the event a break occurs in the other, or later developments require the company to expand its transportation facilities into Atreco.

These river crossing lines at Smiths Bluff had to be assembled in marsh lands, and were dragged into position separately, using a six-wire tackle anchored on shore with a hoisting engine on a barge furnishing the power. Each of these crossing units consisted of 1100 feet of pipe, including overlap for shore connections.

A belated rainy season lessened the difficulties usually found in negotiating the swamp belt on the lower end of the trunk line. Stringing of pipe across the marsh land was accomplished by hiring a gang of workmen to roll the pipe by hand, using the first pipe spotted in position for trackage in rolling the next joint into position.

Study Soil Conditions

A soil survey was made to determine the "hot spots" along the route of the line, and at all such spots the pipe was thoroughly insulated, while the remainder was buried with a primer coat only.

Atlantic Pipe Line Company's main line stations at Longview and Zavalla are equipped with two units each of Byron-Jackson centrifugal pumps and 250 horsepower General Electric motors. This equipment is housed in buildings made by the Gunite process. Similar equipment and structures were used on the company's West Texas trunk line system. Initial crude runs for the East Texas system was made October 3, and the daily capacity is rated at 30,000 barrels, although the addition of more stations would permit a maximum movement of 45,000 barrels daily.

Portable gasoline engine driven Wheatley pumps were used by Atlantic Pipe Line Company in testing its line with water at 850 pounds pressure for a 24-hour period, as construction crews completed each unit. According to R. W. Howe, vice-president and general manager, no leaks developed at any point in the line.

About 50 miles of field gathering lines, including sizes ranging from 10 to two-inch pipe, have been installed by Atlantic Pipe Line Company in the East Texas field, and because of rendering transportation service for other companies this mileage is being added to each month. Most of the gathering system operates by gravity.

San Antonio, Texas.—Saxet Oil Company is preparing to spud in its E. M. Rachal 18, in the White Point field of San Patricio County. This well is 330 feet from the north and east lines of the 737-acre tract in the J. N. Seguin survey. It will test out the sand at 4900 feet, where the Rachal 17 made a small producer.

Great Lakes' Terminal Keeps Pace With Industrial Development

(*Continued from page* 18)

the equipment at night. From the auxiliary building, a small steam line leads to the Ethyl plant, pump house and laboratory, all located in another brick building, adjacent to the switching tracks of the railroads and the main loading rack of the terminal. The building is known as the "Ethyl" building.

The transfer equipment, which is located in this building, consists of centrifugal pumps direct-connected to electric motors. Power for the equipment is purchased from the local power company. Power for the auxiliary equipment at the main and auxiliary buildings and for lighting is generated by equipment connected to the main pump units.

The Ethyl equipment, for the purpose of making specified Ethyl gasoline, is of the latest type and will handle a tank car lot of Ethyl fluid. In view of the fact that one of the district laboratories of Ethyl Gasoline Corporation are located in Kansas City, the work of Ethylizing a shipment of gasoline for re-shipment in tank cars, is greatly facilitated. Samples of the shipment are analyzed speedily at the Ethyl laboratory and specifications are determined and returned to the chemist of Great Lakes Pipe Line Company with little loss of time. The blending is then quickly accomplished and as a result, shipments of this grade of gasoline are speeded up, compared to ordinary custom and procedure with the Ethyl laboratories at a point considerable distance from the terminal.

At the present time the company is handling only the two grades of white gasoline through the line. One is standard grade and specification motor fuel, while the other is a higher grade. This higher grade gasoline is used in the mixing of the Ethyl gasoline. The average individual may feel that the two grades of gasoline would become mixed in transit in the line, but, according to officials of the company, this is not true. They show that in actual practice, no appreciable mixing of the grades is done in the line, and by watching the progress of a dividing point in the grades as it moves up the line from station to station, the contents may be switched from one tank to another at the terminal, almost at the exact point of change in the grades.

Six Companies Allied

Due to the fact that the line was constructed to handle the business of six marketing concerns, including Continental Oil Company, Barnsdall Refining Company, Mid-Continent Petroleum Corporation, Skelly Oil Company, Pure Oil Company, and Phillips Petroleum Company, each company furnishes its own railway tank cars and assigns them to the terminal from which they desire to ship gasoline to their bulk stations or customers. Shipments to the various terminals of the system are made in accordance with the requirements of the companies at these terminals. A dispatcher, located in the Kansas City office, watches the volume of gasoline in storage at the various terminals, and is familiar with the requirements of the companies at the terminal points. He allocates the shipments of the gasoline to the terminals.

At Barnsdall, Oklahoma, is located the point of origin for shipments in the eight-inch, or main line of the system. Gasoline from the Mid-Continent refineries of the companies, made in accordance with the specifications set up by them, is gathered to this point, and started northward. Kansas City is the first terminal, with pumping stations at Independence, Humboldt and Paola, Kansas. From Kansas City, the eight-inch line continues northward to Des Moines, Iowa, with stations at Osborne and Ridgeway, Missouri, and Osceola, Iowa, from which point a four-inch line has been completed recently to Omaha, Nebraska, via Carbon, Iowa. At Des Moines, the line forks, with one six-inch branch going east to Chicago, with pumping stations at Grinnell, Iowa City and Donahue, in Iowa, and Prophetstown and Lee, in Illinois. Another branch, also six-inch, leaves Des Moines for St. Paul, Minnesota, with pumping stations at Alexander, Iowa, and Faribault, Minnesota.

It is in this stretch of line that the pumps are called upon for real service, the distance from Des Moines to Alexander being 88 miles and the distance from Alexander to Faribault being 103 miles. The average distance between pumping stations throughout the system will approximate 50 to 55 miles.

This great system, now operating at capacity, has involved an investment of about $17,000,000, for the purpose of supplying motorists of the Central West with motor fuel. Its construction permits a saving in freight on the part of the shippers. It is one of the jobs of the oil business that has been done in a big way. In perfecting gasoline shipments by pipe line Great Lakes Pipe Line Company has kept pace with the spirit of progress shown in other branches of the oil industry.

Kansas City Station of Great Lakes' Pipe Line

News From California Fields

BRAD MILLS, ***Staff Representative, Los Angeles, California***

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Elwood Completion in Sespe Accelerates Drilling Work

Santa Barbara, Calif.—Completion a week ago by Barnsdall Oil Company and Rio Grande Oil Company of a 2800-barrel well in the Sespe formation at Elwood was one of the outstanding developments of the month and should lead to increased activity in one of the most prolific fields in the state. The new deep producer, Luton-Bell 14, was drilled to 4392 feet and was tested with only 60 feet of sand open below the 8⅝-inch shut-off at 4325 feet. The well came in on the fourth swab and made a remarkable showing on the initial test. The oil was 42.5 gravity and showed a cut of only one-tenth of one per cent. The flow was through one small bean and gas production was about 2,000,000 cubic feet.

Completion of Luton-Bell 14 with such a large initial production from a small portion of Sespe formation was a surprise, since this zone has always been a questionable factor in California. The Elwood field has long been regarded as the ideal structure for a conclusive test, however, as it is an almost perfect anticline as far as the Vaqueros zone above is concerned. The Sespe formation may prove thicker than the Vaqueros zone, but it does not have as good a shale ceiling as the shallower Vaqueros formation. Even a small well in the Sespe from only 60 feet of sand would have been very important, so it is obvious that a good well is still more significant. The Sespe consists chiefly of alternating shale and sand layers, and may not prove as uniform as the Vaqueros, but it has vast possibilities. Luton-Bell is the largest well ever completed in the top of the formation.

The new producer is located near the axis of the structure and in the edge of the ocean, but on the west plunge of the anticline. It was a good producer in the Vaqueros at 3627 feet and flowed for nearly two years before deepening was started in January of this year. Operations were suspended for a short time, but a good completion was expected after a preliminary test of the top of the Sespe zone. Luton-Bell is perhaps the first well ever to produce from both the Vaqueros and Sespe formations. Only three joints of 6⅝-inch liner were run for the test, of which two were perforated. Two and one-half inch tubing was run to 4175 feet.

The Sespe formation has produced a little oil and gas at Capitan, about 10 miles west of Elwood, and at Round Mountain, in Ventura County. It is usually near the generating bodies and has never been taken seriously. The Elwood field was such a remarkable producer in the Vaqueros that it may prove equally as surprising in the deeper Sespe zone. The absence of a thick shale ceiling, such as overlies the Vaqueros, points to inferior trapping conditions, but possibility of thicker deposits may partially offset this shortcoming. The high gravity of the oil will make development of the zone very attractive.

Increased activity at Elwood is a foregone conclusion. Pacific Western Oil Company and Barnsdall Oil Company offset one another extensively and deepening of some of the smaller producers has already been planned. Pacific Western Oil Company has filed notice of intention to deepen two tideland permit producers on the west flank of the structure. Barnsdall Oil Company and Rio Grande Oil Company will undoubtedly deepen other wells now producing in the Vaqueros formation.

The Sespe is found at such a shallow depth at Elwood that its development will be a simple matter. Most of the producing wells were finished with holes large enough to permit deeper drilling. The Vaqueros sand, one of the most productive thin formations ever found in California, lies between 3100 and 3400 feet on top of the structure. Only an excellent shale cap could have permitted such pressures and yields at so shallow a depth.

Discovery of the Sespe comes at a time when the need for more oil in California can be seen. A deeper producing zone in an old field is often more important than a new field.

Lost Hills Field Test Is Plugged Back for Redrilling

Bakersfield, Calif.—General Petroleum Corporation has abandoned efforts to recover the drill pipe at 4399 feet in No. 1301, a deep test in the Lost Hills field, and has plugged back to 3650 feet for redrilling. The fish will be sidetracked in connection with a washover shoe, the top of the iron being at 3660 feet.

This well overcame various obstacles to reach its present depth, but forms of mechanical troubles proved more serious than the high pressure salt water encountered at various levels. Special pressure equipment was not used, but valuable experience in the use of drilling mud was gained.

Lincoln Petroleum Company has recemented the 4¾-inch casing at 5229 feet in Theta 1A and may be able to make a small producer of this well. Total depth is 5329 feet and streaks of good oil sand were cored below the shutoff.

Fruitvale Completion Causes Revival of Leasing Activity

Bakersfield, Calif.—The small completion in the Fruitvale field by Sea Hawk Petroleum Company has led to increased leasing in this area and several wells may be drilled by small companies. The field is the ideal type for certain types of development, affording the small operator a chance to develop leases on a small initial investment.

Sea Hawk Petroleum Company will drill a third well, the latest test being located on Section 23-29-27. Mohawk Petroleum Company has started operations on Section 21-29-27, a lease formerly held by Western Gulf Oil Company. The Jorgenson interests will make a test on Section 23-29-27 and are already building the rig.

The Fruitvale field is unusual in some respects, in that the oil is heavy and flowing wells are obtained, yet the gasoline content of the crude is very low. Western Gulf Oil Company opened up the field three years ago and defined old traditions by drilling a good distance out in the bed of the valley. The discovery well was a good producer, and other wells were completed. Lack of a market for this type of oil made further operations unnecessary and little drilling has been done for more than a year.

Middle Dome Deep Test Gets Only Faint Cuts From Cores

Coalinga, Calif.—Failure of Petroleum Securities Company to get more than faint cuts from cores from Burbank 1, deep test on the Middle Dome at Kettleman Hills, is viewed with some suspicion. The well will have to show a marked improvement to develop into a large producer. The formation is running to a hard sandy shale below 8650 feet and the absence of better streaks of oil sand does not tally with expectations. Much of the formation cored below the 8⅝-inch shut-off at 7326 feet was so compact that oil would have had a difficult time in getting into it under more favorable trapping conditions from below. Gas showings have been encountered and fair oil cuts were recorded at various levels; the average core has been disappointing. Much of the sand resembled that found in the top of the Temblor on the North Dome, yet a similar improvement in the oil content was not in evidence. The Middle Dome is still distinctly a questionable factor. A few geologists believe that the axis of the anticline runs more to the east and that the present activity is too far south. This is merely a theory and may not mean much. There is growing evidence, however, that the North Dome will be the only producing dome of the three. The formation on the Middle Dome may prove misleading and penetration of a thick body may yield a fair production, but the outlook is now doubtful.

North American Oil Consolidated's Blauvelt 1 has met with a series of handicaps in a race to establish a new production record. The drill pipe froze at 8715 feet, but the circulation of oil failed to loosen the section. This well was drilled to 8907 feet and will be completed below 9000 feet, barring mechanical difficulties. The east plunge of the North Dome is being tested and a completion here would be of much value. Top of the Temblor formation was found at 8505 feet. The first cores taken below the record 8⅝-inch shut-off at 8485 feet showed little or no cut, but a better formation was found around 8800 feet. The unfortunate fishing job halted one of the most interesting wells ever drilled in the state. Holder of two casing records, this well promises to establish a production depth record as well. The test may be finished around 9500 feet, but the nature of cores will largely determine the completion depth.

Superior Oil Company has shut in Huffman 3, after establishing an initial production above 10,000 barrels. The company already had two large producers which were beaned back to conform with curtailment requirements.

Several edge tests are being considered, but some of these locations would plainly be outside the producing limits of the North Dome. They are largely of a speculative nature and actual drilling may not be started.

North Belridge Deep Test Completed for 3100 Barrels

Bakersfield, Calif.—Belridge Oil Company has completed No. 49-35, a deep test in the North Belridge field, with an initial gross production of 3100 barrels, but the water content of the flow increased from an original cut of 30 per cent and the completion may not be said to be successful. This well was drilled to 5595 feet and is an offset to two wells on the flank of the structure. The high water cut apparently helps to outline the producing limits of the field, when the action of offsets farther out are considered.

A string of 10¾-inch casing was cemented at 4952 feet, 674 feet of 6⅝-inch liner landed at 5593 feet, and a 4¾-inch flow string run to 4875 feet. For a well located on the flank of the structure, the volume was satisfactory and larger than expected, but the water cut, which ran as high as 40 per cent, was too high. Wells completed on adjoining leases and farther down on the flank of the structure were very small producers. The deep zone will roughly underlie the same area as the shallow zone. This will make the field a long and very narrow producing district. Activity has declined to two wells.

Huntington Beach Deep Test Finds Completion Difficult

Huntington Beach, Calif.—W. E. McCaslin has made little headway in an attempt to complete Transport 17, a deep test in the Huntington Beach field, but it is believed that the shallower layers of oil sand cut above 6000 feet offer as much promise as some of the deeper ones around 8000 feet. Little is known of operations in this well, as few reports are made public. The 4¾-inch casing was supposedly perforated above 6000 feet, but more authentic reports place the latest perforations just above 8000 feet. Little coring was done, but good ditch showings were logged around 5800 feet.

The well flowed 27 gravity oil for a short time on a recent test, but water and mud showed that the shut-off might be faulty. So many tests have been made that it is possible the casing has been worn out. This well was shot at several levels between 7800 feet and bottom, but more harm than good seems to have been done by the severe efforts to make a commercial producer. A compressor has been used with fair results to increase the flow on a few tests. The 4¾-inch casing may be recemented if there is evidence that water is entering the hole around the shoe.

Superior Oil Company is drilling around 8700 feet in Eberle 1, now the deepest test in the field. The hard gray sand gives little clue as to the identity of the formation. The company's other two deep wells, Fee 1 and Gillette 7-2, are idle at 7491 feet and 8265 feet, respectively.

Offsetting operators are still unwilling to start drilling and deepening operations until a more convincing demonstration is made by one of the drilling wells.

Cleaning-Out Operations On Increase in Long Beach Area

Long Beach, Calif.—A decided increase in the number of cleaning out operations in the Long Beach field has restored a portion of the loss in activity while the several deepening operations showed little change during the week. The better demand for Los Angeles basin oil is being reflected in a restlessness on the part of operators in this field. Many wells are known to be in a bad condition, but as long as curtailment prevented the production of even what they would make under unfavorable conditions, there was little use of adding to the expense of operation.

Cleaning out of old wells is being carried out in a systematic manner by some of the largest operators, and inquiries for royalties and offers to take over old wells have pointed toward a better condition.

The field is by far the most active in the state, when redrilling and cleaning out operations are considered. The Los Cerritos extension activity was not as extensive as expected, but if the demand for more oil is felt, many wells will be drilled deeper in this sector. Resumption of drilling in many wells in all parts of the field is also expected. Curtailment stopped drilling on many leases where production was already far above the allowable. Even the drilling of several wells from the surface would take place, should higher crude prices be posted.

Oklahoma--Kansas Field Notes

FLOYD SWINDELL, ***Staff Representative, Tulsa, Oklahoma***

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Set 9777 Feet of Casing In Cement Pool Deep Test

Cement, Oklahoma.—Mid-Kansas Oil and Gas Company and Ramsey Petroleum Corporation cemented 9777 feet of 6⅝ inch, 26-pound casing in their Preston Culp 6, NW NW NE Section 6-5n-9w, deepest test in the United States and second deepest in the world. Setting of this long string established another record in that it is the longest string of 6⅝ inch casing ever run into a well.

Several interesting features were connected with the feat in addition to the depth. Temperature readings on the mud fluid at the surface reached a maximum of 112° F. No readings were taken at the bottom of the hole but the temperature there was estimated to be as high as 280 degrees. This required large quantities of ice which was used both to cool the circulating mud and the cement as it was pumped into the hole. Eighteen hundred and seventy-five sacks of cement were used, filling the annular space from the bottom at approximately 9780 feet to a point probably within a few feet of the surface. This determination was made on 6⅝ inch O.D. casing and a nine-inch hole although the bit gauge was 8⅛ inches. An extra ⅞ of an inch was allowed for irregularities and caving. Although the same size and weight of casing was used in the entire string the upper 5000 feet of pipe was given a longer thread and heavier collars were used.

When the cement has set drilling will be resumed with three-inch drill pipe and an effort made to penetrate an exceptionally hard streak which was encountered at 10,078 feet, and which apparently had been cut only about 10 inches when drilling ceased. This test now is perhaps at its most interesting depth geologically. Located in the bottom of the great Anadarko Basin, it has been closely watched because of an almost absolute lack of knowledge of stratigraphy and structure below the base of the Permian. Micro-paleontologists agree that the formation at 10,079 feet is most likely the Deese Member of Lower Pennsylvanian and it is a matter of conjecture as to the point at which pre-Pennsylvanian rocks will be encountered. It is not unlikely that the world's depth record of 10,585 feet will be exceeded before drilling is stopped.

Oklahoma City Sand Wells Showing Water Total 118

Oklahoma City.—A recent survey of the Oklahoma City pool revealed that 118 sand wells were making water. Of this number only a relatively small percentage is producing from the Wilcox sand but conditions in the Lower Simpson are such that it is evident something must be done to avert a progressive encroachment.

In addition, all wells in the Arbuckle lime are making water in varying amounts. Of the number originally drilled to this horizon about 10 per cent have been plugged back and converted into gas producers.

An interesting feature in connection with the water problem is the close relationship between water production and back pressure. One Wilcox sand well in the north end of the pool was produced with a one-half inch choke and made no water. Within 30 minutes after opening the well with a three-fourths inch choke it was making about two per cent water. This indicates that the smaller choke applied exactly the back pressure required to overcome water encroachment and an increase of as little as one-quarter inch in the choke permitted water to enter.

So far the condition has not become alarming in the sand horizons but it is evident that the time is not far distant when operators will be forced to a constructive fight on the common problem.

Test Opens New Pool In Barton County, Kansas

Wichita, Kansas.—Fourth down and eleven yards to go might aptly be applied to the wildcat test of Charles Hilligos et al on the Isern 1, SW SE NE Section 12-20s-11w, which opened a new pool in Barton County during the past week. Shut down at 3280 feet because of unfavorable conditions several weeks ago, Hilligos decided to drill an additional 100 feet in order to collect dry hole money. At 3313 feet, just 33 feet deeper, the bit encountered pay which filled the hole with 1000 feet of high gravity oil the first hour and at the end of six hours the column had mounted to 2900 feet. The pay had been penetrated only one foot and, although not definitely identified, was thought to be Arbuckle "Siliceous" lime. All indications are that it will make an extension to the Schurr-Raymond pool which is located slightly over two miles to the southeast.

Wells in that pool have encountered the lime at approximately 3320 feet. However, there is a possibility that the pay may be in the conglomerate which overlies the Arbuckle limestone, which, if true would make it structurally lower than Schurr. Assuming the correlation as true Arbuckle limestone to be correct the Isern 1 is 25 feet higher than the nearest production.

Development of the Ellsworth Arch area of western Rice and Ellsworth Counties and eastern Barton County has been in progress since late in 1929, when the Schurr pool was discovered, but the drilling campaign has been restricted due to lack of outlet from any other than the wells in Schurr. This is the ninth location to find commercial production in what is known as the Ellsworth Arch.

Derby Oil Company and Alladin Petroleum Company are rigging up their Stoddenberg 1, CSE SW NW Section 22-16s-10w, approximately one-quarter mile north of Palmer and Gypsy Oil Company's Stoddenberg 1, which came in a 1200-barrel well in June, 1931. Williams and Moore have spudded and shut down their Stratmore 1, CSW SE Section 23-16s-10w, and Barnsdall et al's Schocht 1, SE NW SW Section 25-16s-10w, is a location which probably will be started at an early date.

In the Schurr pool, Slick, Pryor and Lockhart were drilling below 2930 feet in their Schurr 3, CNW NE SW Section 21-20s-10w, after setting six-inch casing at 2595 feet and having a show of oil at 2305 feet. Ralph Wixon was rigging up to drill deeper his Kelly 1, SWc NW Section 22-20s-10w. This well was originally completed by

C. B. Davis with an initial production of 2,400,000 cubic feet of gas at 2953 feet.

Ritz-Decker-Garrett Area

The Ritz-Decker-Garrett area of McPherson County continued to lead the state in activities with seven locations, five rigs, 17 drilling wells, and nine operations shut down. C. B. Davis and Shell Petroleum Corporation completed their Ritz 2, CSW SE SW Section 19-19s-1w, swabbing 1211 barrels in the initial gauge; top of the chat was encountered at 2946 feet with a small showing of oil and gas. Seventeen feet in the Viola limestone at 3435 feet, operators had 1200 feet of oil in the hole. It was shot with 40 quarts at 3424 to 3425 feet. Abilline Oil Company and Shell Petroleum Corporation's Hindmarsh 1, SW SW SW Section 20-19s-1w, swabbed 210 barrels the first five hours and was showing water from Viola limestone at 3425 to 3435 feet. Top of the chat was encountered at 2931 feet and a showing of oil, gas, and water at 2960 to 3000 feet.

Mohawk Oil Company and Deep Rock Oil Corporation were underreaming five-inch casing with a hole full of oil from Viola lime at 3406 to 3407 feet. At 2982 feet, 54 feet below the top of the chat, the pay yielded 2,000,000 gas, 100 barrels of oil and 200 barrels of water.

Status of the important tests as of October 19, was as follows: Foraker et al, Tinsley 1, NW NW SW Section 5-20s-1w, cleaning out at 3451 feet; Derby-Empire, Domsch 4, NW NW NW Section 6-20s-1w, cleaning out at 3410 feet; Plains Petroleum-Shell's Unruh 2, CSW NW NE Section 6-20s-1w, running six-inch at 3164 feet; Mid-Kansas Oil & Gas Company's Unruh 2, SWc Section 25-19s-2w, cleaning out with hole full of oil from Viola lime at 3366-80 feet; Lario Oil & Gas Company's Lewis 1, NWc Section 36-19s-2w, drilling 3375 feet; Olson Drilling Company-Shell's Koehn 4, SW NE SW Section 36-19s-2w, drilling 2278 feet; Youker et al's Lagree 1, CSW NW Section 7-19s-1w, T. D. 3448 feet, swabbed to bottom and shut down when water appeared; and, Mid-Kansas Oil & Gas Company's Whitright 2, CSW SW Section 30-19s-1w, location.

Sedgwick County

Derby Oil Company's Eastborough Estates 5, NE Section 19-27s-2e, in the northeastern portion of the Eastborough pool, lost tools shortly after starting to deepen from chat in search of the lower pay. It was originally completed as a small producer but is making water to such an extent that it can no longer be produced from the chat horizon. Loss of the tools may result in its abandonment.

Oklahoma City Well Locates Wilcox Midway of Structure

Oklahoma City.—One of the outstanding items of interest during the past week in the Oklahoma City pool was the opening of Phillips Petroleum Company and Shell Petroleum Corporation's Egermier 1, SW SW SW Section 23-11n-3w, on the southwestern edge of the structure. This well is the first to find Wilcox production in the area about midway between the north and south ends of the structure. Completed during the first week in August, 1931, it produced 1837 barrels in 2¼ hours with gas at the rate of 14,200,000 cubic feet. After being shut in about 75 days it was opened during the week and produced 4287 barrels in three hours and 40 minutes with gas at the rate of 136,000,000 cubic feet during the early part of the gauge. When shut in the gas volume had decreased to 83,000,000 cubic feet. This is an increase of more than 350 barrels per hour and an increase in potential of about 8500 barrels daily.

Kessler Oil & Gas Company's Canning 1, SE SE SE Section 22-11n-3w, will be one of the most interesting tests during the next few weeks since it is a west offset to the Egermier 1. Operators have set nine-inch casing at 5533 feet and drilling will be resumed during the coming week. Four other wells are being drilled in the immediate vicinity. Phillips Petroleum Company and Shell Petroleum Corporation's Egermier 2, NW SW SW Section 23-11n-3w, north offset to Egermier 1, was drilling below 3495 feet; Indian Territory Illuminating Oil Company's South Glendale 1, NW NW NW Section 26-11n-3w, south offset, was drilling at 4352 feet; the same operator's Little 1, NE NE NE Section 27-11n-3w, southwest offset, was drilling at 4874 feet; and Skelly Oil Company's Ledbetter 1, SW NE NW NE Section 22-11n-3w, was drilling at 1910 feet; the latter test will also be carefully watched since it is located several locations southwest of production and in an area which is unexplored.

One new well was added during the week bringing the total number of completions to 840. Wilcox Oil & Gas Company et al's Lowe 1, NW NE NW NW Section 10-11n-3w, produced 5649 barrels the first four hours, production coming from 166 feet of Wilcox sand topped at 6385 feet. Argood Oil Company's Catilina 1, SE NW SE SE Section 15-11n-3w, a test which has given considerable trouble, flowed 160 barrels by heads in 24 hours. Top of the School Land sand was encountered at 6443 feet and drilling discontinued at 6552 feet. Location of School Land sand in this test causes a slight revision in the Wilcox-Lower Simpson contact which had been drawn to the east with the belief that the Catilina 1 would go from Pennsylvanian into Wilcox sand.

Continental Oil Company initiated its second venture in the pool when in connection with Anderson-Kerr it started building derrick for St. Louis 1, NE NW SW SE Section 34-12n-3w. This test will be an offset to Westgate Oil Company's Carey wells, one of which is rated among the largest in the pool. Continental Oil Company owns the controlling interest in Westgate Oil Company. Slick Estate announced locations for its Terminal 3, 4, and 5, Section 3-11n-3w; definite location had not been given.

Supreme Court to Review Oklahoma Income Tax Suit

Washington, D. C.—The constitutionality of income taxes upon a private corporation deriving income from sales of oil and gas produced under lease of lands owned and set apart by the State of Oklahoma for the maintenance of its public schools will be determined by the United States Supreme Court, which October 26 granted a petition of the government for review of a decision of the Court of Appeals of the District of Columbia, reversing a decision of the United States Board of Tax Appeals and holding that such income is nontaxable.

The case revolves around the income tax return of Coronado Oil and Gas Company. In its petition for review, the government contended that the United States has the right to tax the income of a private corporation organized and operated solely for private profit and that the leases involved were not instrumentalities of the state from the taxation of which the government is barred. The use to which the state put the revenue it derived from the lease it is contended, did not change the character of the transaction from that of private business to that of sovereignty or government.

New Mexico and Rocky Mountain Area

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Midwest Plans to Complete Midway Test in Frontier

Casper, Wyo.—Midwest Refining Company and its associated interests have apparently given up any attempt to complete the Midway dome well, 12 miles north of Casper, in the Muddy sand, and the well is now being plugged back to the second Frontier sand to be put on production there. The well has been drilled through all possible producing sands to the red beds below 6700 feet; the Muddy sand was found heavily saturated with oil and gas, but the Dakota and Lakota carried water. The Sundance formation also had no oil or gas showing. A test made of the Muddy resulted in several sensational flows, but the company was unable to shut off the water successfully. Considerable trouble was also experienced with caving formation below the casing and just above the Muddy.

Oil and Gas Royalties Total In Wyoming Lower This Year

Cheyenne, Wyo.—Federal royalties from oil and gas lands in Wyoming for the fiscal year ended June 30, 1931, totaled $406,736.79. This is about 75 per cent lower than last year.

Berthoud, Colo.—Announcement was made last week of the intention of Mayer Oil Company to enter the Berthoud anticline area, three miles southwest of Berthoud, and to conduct an extensive drilling campaign on acreage it holds there. The first test will be the completion of the old well which is standing bottomed at 2400 feet, and drilling equipment and materials are now on the ground for this work. There are three producing wells on the Berthoud structure, but none of the tests has explored all of the possible producing sands.

Casper, Wyo.—It is reliably reported here that Phillips Petroleum Company has turned over its vast acreage on the Shawnee structure, Eastern Wyoming, to another Mid-Continent operator for a deep test to be drilled immediately. The structure has been very carefully core-drilled by Phillips Petroleum Company, and several of the holes have shown very good oil production at exceptionally shallow depths, while others have shown major gas production. The Shawnee structure, from what can be learned at present, would appear to be an enormous one.

Salt Lake City, Utah.—American Oil Corporation has spudded in a wildcat test on what is known as Last Chance structure, in Emery County, southern Utah. Objective is the Pennsylvanian, expected around 5800 feet. Company is reported to have blocked up some 31,000 acres on the structure which lies partly in Emery, Sevier, and Wayne Counties.

Casper, Wyo.—It is expected that the Department of the Interior will soon call for bids on royalty oil from federal lands in the Salt Creek field, since contracts for the purchase of same expire December 31. The Texas Corporation and White Eagle Oil Corporation are at present the purchasers of the oil. Last contracts were for a three-year period.

Union Pacific Demands That Employes Use Coal as Fuel

Cheyenne, Wyo.—Union Pacific Railroad Company, which traverses the entire southern part of Wyoming and derives considerable revenue from coal shipments and mines, is reported to have issued a warning to its employes to the effect that if they persist in burning natural gas for domestic purposes, they may look for new jobs. In the event that many men are directly discharged for using natural gas in preference to coal, it is quite probable that a test case will be made in the courts.

Continental Plans Pipe Line For Greaswood Lakes Field

Denver, Colo.—Continental Oil Company is asking for bids on an oil pipe line to be laid from the new Greasewood Lakes field, in Weld County, to the town of Hardin, on the Union Pacific railroad, the work to begin immediately when bids are let. The line will be of 6⅝-inch pipe and may eventually be laid into Denver, where the company has a refinery.

Continental Oil Company has been delayed by a fishing job in the completion of its second test on the structure, Gadbois 1, one-half mile south of the three producing wells. Tools and most of the cable were in the hole last week. It is possible now that the next completion will be the Reiter-Foster's Johnson-Juhl 1, which is cemented and ready to drill in with cable tools.

Three and a half miles northwest of Fort Morgan, Colorado Associated Oil Company's test is still the center of much interest and conjecture. The company is giving out no information on the test, and rumors run wildly from reported major production in the Muddy to no indications whatever in that horizon. No dependence can be placed in any of these reports.

Crude started running to the stills at Orchard of Mountain States Refining Company. The plant has a capacity of 200 barrels, which may be increased later. Mountain States Refining Company is affiliated with Platte Valley Petroleum Company, which drilled the discovery well on the structure, and has first call on that production.

Craig, Colo.—The natural gas franchise for Craig proposed by Ohio Oil Company has been ordered published in the Craig newspaper for two weeks, after which an award will be made. There were two applicants for the franchise, Ohio Oil Company being one and A. J. Hardendorf of Denver being the other. If and when the franchise is awarded to the Ohio Oil Company the company plans to start drilling a well on its holdings on a proved gas structure about four miles from Craig.

Payette, Idaho.—The wildcat test to the gas producing horizons indicated in a well drilled a year ago on the Crystal dome, in Southwestern Idaho, is reported to be rotary drilling below 1625 feet. The well is being drilled by R. J. Berry, vice president, Ohio Oil Company.

East Central Texas Field Notes

H. H. KING, ***Staff Representative, Fort Worth, Texas***

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East Texas Allowable Cut to 150 Barrels Per Well

Tyler, Texas.—A cut of 15 barrels from the daily production allowance of wells in the East Texas field is to become effective 7 a.m. October 29, according to instructions received by military headquarters here Tuesday, October 27, from Governor R. S. Sterling, who is personally handling the proration situation in this particular field since the commission has been enjoined by a federal court order.

Under the revised schedule the wells will be allowed a maximum of 150 barrels daily each, and in all probabilities there will be 2650 wells when the reduction takes place, thereby placing the output barely less than the 400,000-barrel daily quota approved for the field.

The field yielded 428,310 barrels for the 24-hour period ending 7 a.m. October 26 from 2599 wells reporting production, or 18 less than total completions. This is an average of 164.7 barrels per well.

East Texas Contractors Held To Top Price of $2 Per Foot

Longview, Texas.—Drilling contractors owning something like 500 rotaries in the East Texas field are now held to a top price of $2.00 per foot, with everything furnished but the drilling machinery and labor. This compares with a top price of $3.50 per foot paid by some companies during the early stages of development of the field last spring. One major company has lately placed drilling contractors on a flat fee of $6000 for drilling to the top of the Woodbine sand near the 3500-foot level in Central Gregg County, and $6500 for making hole to top of the sand in the Joiner area, where the drilling is slightly harder and the sand somewhat deeper, with $150 per day paid for coring and drilling in.

Most contractors with active rigs are believed to be only swapping dollars under the reduced drilling price, and many have refused to accept contracts involving the flat price to the top of the sand as outlined above because of inability to show a profit. Until recently the majority of the well established companies were paying $2.25 per foot and furnishing derrick, pit, fuel and water. The 25-cent cut per foot is believed to have been partially due to underbidding practices by contractors, and also resulting from drilling costs determined by companies that are dividing their work with company owned rigs and contractors. According to close checks made of expenses involved in operating company-owned rigs in the field the cost per foot ranges from $1.30 to $1.75, but it is seldom the case that company-owned rigs are charged with all the incidentals that drilling contractors can not escape. Company-owned rigs are usually kept in one section of the field, and locations are allotted ahead to reduce idleness, while in contrast the contractor has to jump from one end of the field to the other at times, with idle periods between contracts.

Contractors netting the most profits for their efforts in the East Texas field are those that are financially able to accept oil payments for all, or the long end of the contract price. Many operators are willing to pay bonuses for drilling when deferred payments are possible, and this policy is not altogether confined to small independents, as some of the companies ranking in the so-called major class have lately seen fit to let contractors help finance their drilling programs. One large company has a 100-well drilling program that calls for 10 completed wells monthly, and the drilling contractor is paid a flat sum of $25,000 per well completed or flowing through the Christmas tree, with the contractor paid solely by oil runs from said wells. Some companies having extensive marketing facilities are forcing contractors to accept coupon books as part of the cash price, thereby enabling the company to force patronage for its filling stations.

The forthcoming decline in drilling activity in the field will force some majors with their own rotaries to do all their drilling in the future. This policy will react against contractors, as it so happened that these companies have been paying the top footage price in order to assure good holes and prompt service. Humble Oil & Refining Company has 27 rotaries of its own in the field, and these are sufficient to do all the company's work in the future. Magnolia Petroleum Company has 20 outfits, and because of not having enough work to keep them busy the company has been keeping two rigs running at regular contract prices on leases of Vacuum Oil Company, an affiliated company. Sun Oil Company now has nine rotaries of its own in service in East Texas.

West Edge of Kilgore Area Furnishes Disappointments

Longview, Texas.—The west edge of the Kilgore area in Gregg County contributed several disappointments during the past week while the entire field chalked up another heavy quota of big wells. New completions for the seven-day period totalled 111, including 62 in that portion of the field lying north of the Sabine River. The Joiner area furnished 34, and the Kilgore section dropped to a new low of 15. The latter has thousands of undrilled locations proven for production, but the acreage is mostly held by large interests and in large tracts, and probably will never be closely drilled now that the small tract areas have been fairly well drilled.

Williams et al's Chas. Smith 1, located in the south central part of the J. M. Morris Survey, forced the possible outline of the oil producing area in Gregg County further to the east when sand at 3737-3746 feet tested salt water. The first drill stem test revealed water with trace of oil and gas, and a second try resulted in the stem collapsing. This test was drilled to a sub sea depth of 3361 feet, or well within the water zone.

Flanagan Production Company's W. B. Walker 1, located in northwest end of the Kilgore area and on the west bank of the Sabine River, succeeded in making a small flowing well from sand at 3599-3604 feet, but because of having a sub-sea depth of 3332 feet it is expected to develop water troubles soon after going on regular production. Stanolind Oil & Gas Company and Simms Oil Company's A. W. Miller 1, located a short distance further north, and The Texas Company's S. D. Walker 2, also on the west bank of the river, were having

trouble developing commercial production late last week after having drilled to the danger zone for water. The latter logged sand at 3571-3586 feet.

Shell Petroleum Company is rigging up to pump the first of its 86 successful oil completions in the field after having failed to sustain the flowing pressure on its Abe Holt 1, located on the extreme east side and in the discovery section of the Kilgore area. A motor-driven Lufkin unit of the intermediate type is being installed.

Sharp Decline in East Texas Field Operations Anticipated

Tyler, Texas.—Sharp decline in total field operations in the East Texas area is scheduled to put in its appearance immediately although the volume of activity reached a record level for all time late last week. A careful check on all tests listed accounts for a total of 886 operations, or a gain of 20 over the previous week.

New locations during this period amounted to 124, as compared to 195 during the preceding week.

Companies that have consistently staked a large quota of new locations weekly came through with only a few during the past week, and Humble Oil & Refining Company reported no new location. The latter has surrendered leadership on field activity to Sinclair Oil & Gas Company after having lead all operators in the field for months.

Operations East Texas Field

Most active companies operating in Gregg, Rusk, Upshur and Smith Counties, comprising the East Texas oil field, are listed below, with total operations held by each, exclusive of completions, as of October 23, 1931:

	Locations	Derricks & Rigs	Active Tests	Total Underway
Humble Oil & Refining Co.	4	35	19	58
Sinclair Oil & Gas Co.	1	10	48	59
Magnolia Petroleum Co.	7	9	13	29
Tidal Oil Company	10	6	8	24
Gulf Production Co., et al.	5	5	14	24
Shell Petroleum Corp.	2	11	10	23
Sun Oil Company	2	9	11	22
Yount-Lee Oil Company	7	7	7	21
Arkansas Fuel Oil Company	4	12	8	24
The Texas Company	2	6	11	19
Stanolind Oil & Gas Co., et al.	7	4	8	19
Stanolind-Simms Oil Co.	2	1	4	7
Atlantic Oil Prod. Co., et al.	1	6	7	14
California Pet. Corp. of Ven.	2	1	9	12
H. L. Hunt et al.	2	5	5	12
Mid-Kansas Oil & Gas Co.	7	6	4	17
Prairie Oil & Gas Co.	1	4	7	12
Empire Gas & Fuel Co.	..	..	8	8
Golding-Murchison Oil Co.	1	5	4	10
Amerada Petroleum Corp.	..	1	5	6
Sabinas Oil Corp.	2	..	3	5
Roeser-Pendleton, Inc.	..	3	3	6
East Texas Refining Co., et al.	..	..	4	4
Selby Oil & Gas Co., et al.	..	2	2	4
Total for 24 companies	69	148	222	439
Miscellaneous companies	62	146	239	447
Total	131	294	461	886
Total previous week	142	302	422	866
Operations by Areas				
Longview	68	123	202	393
Joiner	25	96	138	259
Kilgore	38	75	121	234
Total	131	294	461	886

Van Field's Yield Average Is 4697 Barrels Per Acre

Tyler, Texas.—An average yield of 4697 barrels per acre had been recorded by the Van field, East Texas district, up to October 1, with approximately 4000 acres of productive territory in the Woodbine sand horizon. This field's total output since the completion of the discovery well by Pure Oil Company, October 14, 1929, to the close of September amounts to 18,789,637 barrels. The high mark on production was reached in September when the field yielded 1,484,293 barrels from 244 flowing and 16 pumping wells.

Four new tests were authorized for the field during the past week, including three on proven leases, contributed to the unit block by Pure Oil Company, which is also rigging up to drill a Trinity sand test a short distance north of the field proper. The new locations included the following: A. R. Tunnell (101.2-acre lease) 7; J. A. Bracken 69-acre lease) 4, both on John Walling Survey; and R. L. Wells (138.2-acre lease) 13, Mund Gross and H. V. Moore Surveys. The Texas Company was assigned a new test, which is listed as J. A. Bracken (44.48-acre lease) 2.

Gravity of the oil produced in the Van field has sustained a decline of two to four degrees on some leases that have been on production for a long period. Pure Oil Company's W. A. York 4, which is the last completion, having been made October 18, produced 34.4 degrees gravity (corrected) oil on initial gauge of 104 barrels pipe line oil per hour through eleven-sixteenths inch choke. This well was the first completion made since the change of proration plan to the acre-feet of sand basis, and is credited with having drilled 464 feet of Woodbine, including minor shale breaks, with a total depth of 2924 feet.

Van Field's Sand Thickness Equal to 1,171,409 Acre Feet

Tyler, Texas.—Placing of the Van field on an oil producing sand thickness basis for determining production allowables per lease under proration rules of the state effective 7 a.m., October 19, for a period of six months, reveals an estimated sand thickness of 1,171,409.62 acre-feet. The 50,000 barrel daily production quota assigned the field is apportioned among the various leases on the basis of acre-feet of sand lying above the water horizon of the field at a sub-sea depth of 2500 feet. The field is credited with having 4,158.65 acres of oil producing area when the new proration figures were compiled, and there are 261 completed oil wells scattered at various points over this area. The acre-feet of sand underlying each lease was determined from logs of completed wells, which cored the sand in most instances. Sun Oil Company's I. W. Thompson lease in the heart of the field was credited with the greatest sand thickness, as all wells recorded an average sand thickness of 598.7 feet.

Texas Pipe Line Company Starts Work on Short Line

Tyler, Texas.—Construction work has been started by The Texas Pipe Line Company on about seven miles of combination eight and six-inch crude lines to extend from the Gladewater section of the East Texas field to the north in Upshur County. This gathering system extension is being built primarily to provide connections for properties being developed by California Petroleum Corporation of Venezuela, which is owned jointly by The Texas Corporation and Standard Oil Company of California. California Petroleum Corporation has completed three producers, and has a dozen additional tests underway.

East Texas Plants Operating At One-Fourth Daily Capacity

Tyler, Texas.—East Texas refineries continue to operate at about one-fourth of their possible capacity, and during the week ending October 21 averaged only 16,500 barrels daily. Plants having a satisfactory credit rating are able to obtain ample crude by paying the prevailing market price of 68 cents per barrel, but the owners do not care to operate on a large scale while such prices prevail and a comparatively low price available for gasoline. During the same period crude movement from the field over trunk lines averaged 396,990 barrels daily, or a gain of 34,000 barrels over the daily average maintained the previous week. This past week was the high mark on trunk line movement of crude since the inauguration of proration under martial law in the field, and also was the low mark on tank car shipments, which involved a daily average of 3640 barrels.

Crown Central Petroleum Corporation shifted from cars to a common carrier line in moving its East Texas purchases to Houston, and in doing so caused rail shipments to drop in half. Sinclair Refining Company has arranged to deliver East Texas crude on common carrier basis over The Texas Pipe Line Company's system at 20 cents per barrel trunk line tariff, and deliveries are to be started this week. The latter is making deliveries also to other plants at Fort Worth and Dallas, with an 18½ cent trunk line tariff applying to the latter point.

Drilling Increase Threatened In East Texas by Court Action

Austin, Texas.—The filing of a suit in the Fifty-Third district court at Austin by Idaho Oil Company of San Antonio, threatens to increase drilling in East Texas if the plaintiff wins its case.

It is charged that the application of Rule 37 by the commission to this field is unconstitutional, as the requirement of the spacing of wells 660 feet apart is unreasonable and unwarranted.

Idaho Oil Company owns a one-acre tract in Upshur County on which it was refused permission for a well by the commission, according to the suit they have filed.

Rule 37 has been upheld by the Supreme Court of the United States, but its application must be reasonable. It is this angle of the case which the plaintiff is attacking.

Should Idaho Oil Company succeed in forcing the commission to reduce the spacing between wells in the East Texas field, it could result in the drilling of almost double the number of wells now being located.

Shelby County, Texas, Test Gets Oil Show at 2642 Feet

Marshall, Texas.—McRobie and associates claim to have recovered a six-foot core of sand showing oil from 2642 to 2648 feet in Windham 1, William Leach Survey, Shelby County, Texas, which is being drilled on a 296-acre tract in the Shelbyville district. The formation is identified as Blossom. A mile south of this test Sloane Prospecting Company and Tokio Oil Company's Windham 1, A. H. English Survey, had an interesting show of oil in the Blossom and even better in the Woodbine at 3399 feet, the well appearing for a time as if it would be a commercial producer in the Woodbine. McRobie and associates recently cemented 8¼-inch casing at 1750 feet above the Nacatosh after a gas show in the chalk rock at 2282 feet, the test later bailing dry with a slight show of gas at this depth.

I. M. Bradley and associates last week abandoned J. J. Asberry 1, G. W. Mitchell Survey, Shelby County, as a dry hole at total depth of 3280 feet in sandy lime.

E. L. Chapman has cemented a string of 5 3/16-inch casing at 3102 feet in Pickering Lumber Company 1. C. F. Henry Survey, near Joaquin, also Shelby County. This test unexpectedly blew out last summer at 3864 feet, making an estimated gas yield of 25,000,000 feet daily and a spray of fresh water. Nothing but surface casing had been set. The well after being out of control for a time was finally killed and a short string of seven-inch pipe cemented. Later it was again killed and cleaned to bottom and the smaller casing cemented last week.

Chapman who recently took over from Chapparal Oil Company Holt 2, Matthew Moore Survey, Shelby County, which is down to 3127 feet, is moving in a heavier rig at this location.

H. L. HUNT INSTITUTES SHORTER HOURS AND INCREASED WAGES

Tyler, Texas.—Shorter working hours with an increased wage scale for all field men on the payroll of the H. L. Hunt interests, Tyler, in the East Texas field became effective October 23 as a means of relieving the idle labor problem in the area. H. L. Hunt, veteran operator and one of the largest independent lease owners in the field, began advocating the four-shift working day for field men in middle September, and has succeeded in interesting nearly all the major companies with holdings in the field to give the plan a trial. It is quite probable that several major companies will announce shorter working hours for their field crews before the close of October, as every company has long lists of names of ex-employes thrown out of work in other fields now trying to get on in the East Texas field. Much of this type of labor is expected to be absorbed by the doubling of working forces through the reduction of working periods from 12 to six hours.

An increase of 10 per cent in the hourly wage scale has been announced by H. L. Hunt for all of his field men affected by the reduction in working hours in order to partially offset the earning power decline to be shouldered by each man. It is reported that all field men working for the Hunt Interests were agreeable to the shorter day plan.

With few exceptions the substantial companies are paying about the same wage scale to field men. Should the Hunt plan of giving a 10 per cent boost in wages become general, drillers would be receiving $1.10 per hour for six-hour shifts, while roughnecks will be paid 55 cents per hour, and roustabouts 45 cents per hour. Ordinary field laborers are paid slightly less than the latter type of workmen by some companies.

Three Nacogdoches County Tests at Interesting Depths

Houston.—Of the several wildcat wells drilling in Nacogdoches County three have reached depths which will cause them to be closely watched for the remainder of the year.

Ginter et al's Neil Wells 1, located in the M. H. Chireno Survey and 15 miles southeast of Nacogdoches, is drilling in black shale below 3430 feet. G. L. Muckelroy 1, being drilled in the Martinsville district, Jose Flores Hrs., is drilling near 4000 feet, while Benedum Trees' Conkrite 1, one mile south of Chireno is shut down temporarily in shale at 5485 feet.

South Texas Field Developments

EARL POST, *Staff Representative, San Antonio, Texas*

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New Bexar County Shallow Gas Field Is Now Imminent

San Antonio, Texas.—A new shallow gas field was in the making as J. E. Anderson made preparations to complete his Suburban Irrigated Farms 1 on the C. Logan Survey, Bexar County. The well topped the Anacacho at 1117 feet and went into a gas sand at 1137 feet, which showed for production. Drilling was stopped at this level and casing set at 1117 feet.

This test is located on a 1300-acre block and is 500 feet from the north line and 600 feet from the east line of the tract. It is about midway between the Adams gas field, Medina County, on the southwest and the gas ridge field of Bexar County on the northeast. The test is 20 miles southwest of San Antonio near the town of Kirk. It is on what is commonly known as the Chichon Lake fault.

Muckelroy Extension Pool Well Good for 300 Barrels

San Antonio, Texas.—F. H. Etheridge's Jose Bustamante et al 1, in the southwestern portion of the Muckelroy extension of the Jennings field, Zapata County, has been completed for 300 barrels daily from a sand at 1475-78 feet. The cap rock was logged at 1472-75 feet and casing was set at 1473 feet.

This well is 640 feet from the northeast line and 150 feet from the northwest line of Sun Oil Company's 80-acre tract in share 35, Fansler partition of the Comitas Grant. It is 2500 feet southwest of the Bateman producer, which was completed last May for an initial flow of 270 barrels, opening a new sand and a new pool for this immediate area.

In the main pool, Trevino Oil Company's Trevino 12-A, Survey 412, is making 25 barrels from the sand at 1209-25 feet.

Start Three Deep Wildcat Tests on Kelsey Structure

Longview, Texas.—Acreage donations made lately by Amerada Petroleum Corporation and Humble Oil & Refining Company paves the way for the starting of three deep wildcat tests on the Kelsey structure, located in west central part of Upshur County, and northwest of the East Texas field. The Kelsey structure is a large anticline, and the drilling of Amerada Petroleum Corporation's Wade 1, J. H. Fields Survey, to the Glenrose (Lower Cretaceous) formation at a total depth of 6153 feet in October, 1929, yielded geological data that has induced companies to continue paying lease rentals in the area even though the test failed to show oil or gas. Top of the Woodbine was reported at 3461 feet, and first red beds at 3785 feet.

A block of about 1500 acres has been rounded out by Tarr & Potter, Tulsa operators, as result of acreage contributions by the above two major lease owners, and a test will be drilled by these independents on the E. G. Odom tract, located in the northeast part of the D. B. Lucas Survey, or north of the deep failure. Snebold et al have been aided with lease donations, and will drill on the R. J. Paine farm, W. Thomas Survey, or a short distance east of the failure.

An unidentified independent group has been contracted to drill to the south of the town on the C. Bailey tract, J. D. Miller Survey, as result of support received from the above two companies in the form of leases.

Victoria County Test Now Down to Interesting Depth

San Antonio, Texas.—Houston Oil Company's Konrad 1, Victoria County, is reaching an interesting depth. At last reports the well was washing down to the bottom of the hole, which was listed at 5175 feet. This test is 1000 feet east of the northwest corner of the T. & N. O. Survey on the Beck Salt Dome in the northern part of the county. At 5003 feet, it has considerable trouble with gas and heaving sand. A string of casing was run and the test is now drilling ahead.

In the McFadden district, The Texas Company's McFadden 3, northwest of the McFadden 2 gasser, is drilling at 4425 feet. This well has opened several shallower sands and probably will be plugged back to one of the shallower levels if the production is not found in the deep horizons.

Active Drilling Campaign In Prospect for Damac Pool

San Antonio, Texas.—An active drilling campaign is in prospect for the Damac pool, one mile southwest of Pettus, in Bee County, with several locations being reported during the week.

Between Damac Oil Corporation's Ray 1, discovery well, and Buchanan & Lefevre's Ray 1, 2500-foot west extension, three locations already have been recorded with at least two more to be made within a few days. Two more locations have been reported north and east of the general producing area, bringing the total number to seven.

H. H. Weinert has derrick up for George A. Ray 1 and has made location for Ray 2, John A. Williamson Survey. This lease is between the Damac and Buchanan and Lefevre wells. Also between these tests, C. R. & M. Corporation's George A. Ray is a location with derrick being built. An unleased strip of the Ray tract offsets the new Buchanan and Lefevre well, which will call for the drilling of a test, while The Texas Company has acreage on the Grammell tract, which is nearly offset to the new discovery.

The T. B. Slick Estate is making a location as a northeastern offset to the new Buchanan and Lefevre well. It will be Ray 2 and will be in the George A. Kerr Survey.

Derrick is up and drilling will get under way on Houston Oil Company's Portis 2, A. Smalley Survey, which is an east offset to the Damac well.

The Buchanan and Lefevre well, which showed up for a producer at the rate of 63 barrels of oil hourly through the open tubing and showing 550 pounds pressure on the casing, has been plugged back from 3908 feet to 3898 feet in an effort to shut off the water. The well still has 11 feet

of saturated sand and should make a large well when finally completed.

When the extension well originally was brought in, it showed about 40 per cent water, but the volume finally dropped to about 11 per cent. The briney odor, however, caused the owners to plug it back.

The striking of a higher water level than was expected in this area has created a puzzling situation. To date, three wells have been drilled and the new producer is the first to show any water. The discovery well, the Ray 1, encountered the sand at 3920 feet and took only five feet of sand, being completed for better than 600 barrels on choke. A 660-foot north offset, drilled by the Slick Estate, was abandoned at 4235 feet, but never showed any water. The last well, the new Ray test, hit the sand at 3887 feet and went into water at 3908. Considering the fact that it hit the pay much higher than the other wells, this is an odd situation.

In the old field, the townsite area and the discovery area, there were a number of wells sunk as low as 50 feet into the pay without the slightest trace of water. The average depth of the wells in the pay, however, is 10 to 15 feet.

Plug Back Saxet Field Well To Cut Off Salt Water Flow

San Antonio, Texas.—Neal and Milton and Kepley Production Company's Roark 1, Saxet field, Nueces County, is being plugged back in an effort to cut off the flow of salt water encountered at 4833 feet. This well showed 55 fourbles of pure oil without water on a 14-minute drill stem test of a sand at 4825-32 feet. Casing was then set and the well drilled in, showing nothing but salt water. There have been several attempts to cut off the salt water, but all have failed and it is now plugging back.

Gulf Coast Oil Company's Elder 1, 2½ miles west of the Roark 1, showed considerable oil in a sand at 4892-96 feet, but several drill stem tests failed. Casing is being set and the well will be drilled in. Gulf Coast Oil Company's Sagarin 1 is reaming at 4272 feet. Saxet Oil Company has derrick up for Weil 5. L. L. Smith drilling at 4650 feet in shale and lime in his Alexander 1.

Schoolfield & O'Byrne Pool Completes 400-Barrel Well

San Antonio, Texas.—One producer and three new operations featured the Schoolfield and O'Byrne pool operations during the week. Magnolia Petroleum Company's J. O. Wilson 5, Survey 134, Duval County, is making 400 barrels daily from the sand at 2390-2416 feet.

The new operations during the week follow: Humble Oil & Refining Company's White 2, Survey 58, rigging up; Magnolia Petroleum Company's J. O. Wilson 6, Survey 136, rigging up; The Texas Company's Bishop Cattle Company 3, Survey 135, drilling 1000 feet.

San Antonio, Texas.—A failure was recorded in the Charco pool of Goliad County when Stanolind Oil & Gas Company and John F. Camp announced that they would abandon their Pettus 2 in the Maria de Jesus Ybarbo Survey, six miles south of the Slick pool. The total depth of the well is 4520 feet. Broken sands at 4304 feet to 4338 feet were dry. The Pettus 1, 1589 feet south and 64 degrees east of this well, made a small producer at 4282-86 feet, showing about 15 barrels of oil, 10,000,000 cubic feet of gas and considerable water.

Two Camp District Wildcats Get Production in Crevices

San Antonio, Texas.—Two wildcats in the Camp district of Guadalupe County struck crevices and have been completed as large producers.

Humble Oil & Refining Company's Dan Denman 1, 450 feet south of the Seguin-Gonzales highway and 1438 feet from the west line of the tract in the William Arrington survey, was flowing at a rate of 150 barrels an hour through tubing, not choked in, October 26, and was cleaning itself. This report was received from the field an hour after it had been brought in and an increase in the flow was expected. It is showing 20 pounds pressure on the 2½-inch flow lines. It flowed 77 barrels the first one-half hour.

The Denman well is 900 feet south of John F. Camp's Sue E. Denman 1, discovery well of the Camp pool, one mile southwest of the Darst Creek field.

The Denman 1 topped the Austin chalk low at 2214 feet and hit a crevice at 2359 feet, filling the hole with oil on a five and one-half minute drill stem test. Casing was set 25 feet off bottom.

The other crevice well is Camp's Dan J. Denman 1, 450 feet from the west line and 150 feet from the north line of a 50-acre tract in the William Arrington survey, 2500 feet south of Camp's discovery well. This test topped the Austin chalk at 2256 feet, very low for the district, and went into the crevice at 2400 feet, above which the 6⅝ casing was set. When the swab was run a couple of times, October 26, the well made one head of oil which went over the derrick. It was preparing to swab again and was flowing 50 barrels hourly before cleaning. A material increase is expected in the output.

The two new producers likely will be placed in the Darst Creek proration schedule, as were the other two wells in the Camp pool. Should this be done, they will be cut to about 12 per cent of their potential production.

The new proration schedule for the Darst Creek field, just released by J. L. Martin, deputy supervisor, reduced the allowable of the field from 20,000 to 18,000 barrels daily. The potential is 121,079 barrels from 258 wells.

The producers abandoned in the period ending October 17 included Gulf Production Company's Dix McKean 1-A and the Texas Company's P. Roamel 1.

The report is as follows:

Darst Creek Field, Guadalupe County

Company—	No. Wells	Total Potential	Daily Allowable
Abercrombie & Harrison	5	2,920	416
John F. Camp	1	5,768	821
Cranfill & Reynolds	1	85	85
Empire Gas & Fuel Company	8	1,606	310
Gulf Production Company	51	25,443	3,689
Humble Oil & Refining Co.	49	22,714	3,237
United North & South Development Company	17	8,355	1,272
Magnolia Petroleum Company	48	10,969	1,686
Penn Oil Company	1	45	45
Stroube & Stroube	1	95	95
Sun Oil Company	15	12,678	1,819
Texas-Humble et al	1	602	86
The Texas Company	52	29,002	4,133
L. C. Turman	2	.....	.....
Trinity Drillers	3	617	125
H. H. Weinert et al	1	95	95
H. H. Weinert	1	30	30
H. H. Weinert	1	55	55
Field Totals	258	121,079	18,000

Gulf Coast Field Developments

JACK LOGAN, ***Staff Representative, Houston, Texas***

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Develops Shallow Production On East Flanks of Barkers Hill

Houston.—East flank of Barbers Hill field in Coastal Texas, that section of the field which has witnessed a major portion of drilling activity there this year, developed another surprise this week which may result in a changed aspect of drilling programs. A new shallow sand has been discovered. Whether it is capable of sustained production is not known as yet.

Sun Oil Company completed J. Wilburn 11 on the east flank of the field at 2610 feet. While the well swabbed in at the rate of only 200 barrels per day, the oil was recovered from a sand nearly a half mile shallower than that from which most of the production on that flank is obtained. Usual completions on the east flank of Barbers Hill field have a total depth of from 5200 to 5400 feet.

J. Wilburn 11, which is located 450 feet west of nearest production is flowing pipe line oil, 25 degrees gravity. Sinclair Oil & Gas Company is preparing to spud J. F. Wilburn 9, an offset to the shallow producer of Sun Oil Company. Behavior of Sun Oil Company's shallow well will be watched as Sinclair's operation nears the 2600-foot level.

A second completion at Barbers Hill this week brought the field's initial up to 2000 barrels. It was Mills Bennett Production Company's J. F. Wilburn 5, which had an initial production of 1800 barrels of 25 gravity pipe line oil, coming from a sand topped at 4358 feet and bottomed at 4407 feet. Initial pressure reading on J. F. Wilburn 5 was 440 pounds on a half-inch choke. This producer is also offset by Sinclair Oil & Gas Company with its J. F. Wilburn 8, the latter of which is drilling in shale at 4027 feet.

Slaigle District Wildcat Is Abandoned in Shale at 2730 Feet

Houston.—Shale, the one word which has characterized failure to go deeper in so many wildcat wells of the Texas and Louisiana Gulf Coasts, is the last entry on the log of Exchange Petroleum Corporation's wildcat test in the Slaigle district, Vernon Parish, Louisiana.

This week Exchange Petroleum Corporation abandoned White Grandin Lumber Company 1 in shale at about 2730 feet after having set 210 feet of 12½-inch surface casing. The well was located in Section 29-3n-7w. It spudded September 13 of this year, and drilling was carried forward without interruption until the abandonment this week.

East Hackberry Field Gets Two Completions During Week

Houston.—Two compeltions this week were added to East Hackberry field, Cameron Parish, Coastal Louisiana, when Yount-Lee Oil Company brought in State Kelso Bayou 43 for an initial production estimated at 500 barrels of pipe line oil and Calcasieu Oil Company brought in Landry 3 for 13 barrels of net oil.

State Kelso Bayou 43, located in Section 13-12s-10w, was completed in an oil sand topped at about 2990 feet and bottomed at about 3000 feet. Gravity of the oil was 25.6. The other well, Calcasieu Oil Company's Landry 3, was completed at about 2660 feet. It had logged oil sands at 2300-2307 feet, 2640-50 feet, and 2655-60 feet. A large amount of water was produced along with the 13 barrels of oil.

Among other important operations in Cameron Parish, Calcasieu Oil Company is setting seven-inch casing on top of an oil sand at 2970 feet in Watkins 27, East Hackberry field, where Jim Oil Company has set seven-inch casing at 2960 feet on top of an oil sand.

Montgomery County Wildcat Is Drilling Below 3700 Feet

Houston.—Humble Oil & Refining Company's W. A. Renn 1, Montgomery County wildcat test located four miles south of Magnolia, was drilling below 3700 feet in shale this week after having encountered nothing of commercial importance since spudding. This well, located 750 feet south of the north line and 900 feet west of the east line of the W. A. Renn 286-acre tract in the McFarland Survey, set surface casing at 220 feet and a string of 13⅜-inch casing at 1932 feet.

G. W. Strake's South Texas Development Company 1, another Montgomery County wildcat well, is reported drilling below 4000 feet and assuming a depth at which it will be closely watched. This test is 2½ miles southeast of Conroe, in the Theodore Slade Survey.

Another Small Well Completed At Stark's Dome, Calcasieu Parish

Houston. — Another small producing well was added to Stark's Dome in Calcasieu Parish, Louisiana, this week when Gulf Refining Company completed its Lutcher Moore 28 for an initial pumped production of 25 barrels per day by setting one joint of 4½-inch screen at 1205 feet.

Starks Dome was discovered by seismic methods in 1925 by the above operator. While dome formation was found in the first well drilled there, Standard Oil Company of Louisiana's Industrial Lumber Company 1, in 30-9s-12w, it was not until the eighth well was drilled that oil was found. This was Gulf Refining Company's Lutcher Moore 4 in Section 19 which had an initial production of 2500 barrels.

Another completion for Coastal Louisiana during the week was Vacuum Oil Company's Wait 1, in the Iowa district of Calcasieu Parish. Wait 1 was completed at 6971 feet, for a flush yield of 3360 barrels, with a pressure of 1400 pounds on one one-half inch and two three-eighths inch chokes. The production is pipe line oil, 41 gravity. Wait 1 is located 225 feet each way out of the southeast corner of Section 12-9s-7w.

Houston.—H. W. Elliott's Marek 1, Milam County wildcat well, was reported early this week to have logged slightly below 2420 feet a broken formation believed to be that which immediately overlies the Austin chalk.

Los Angeles.—With only two drilling wells in the field, Playa del Rey has established a new record for dullness. The demand for oil in the Los Angeles basin may result in increased activity on the part of the larger operators, but it is doubtful whether the townlot operator will ever be active here again.

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Louisiana--Arkansas Field Notes

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Smackover's 6000-Foot Test Cores Salt at 5974-80 Feet

Shreveport—Lion Oil Refining Company and associates drilling the first 6000-foot test in the Smackover field, during the last week attained the intended depth in Guy P. Hayes A-9, NE NE Section 4-16-15, Union County, Arkansas, but are continuing to make hole, due to an interesting development. The test showed a core of pure rock salt from 5974 to 5980 feet last week and late in the week operators were drilling in this same formation at 6031 feet, after having encountered in the intervening space broken rock salt and lime and layers of lime between the salt. A divergence of opinion exists concerning the age of this formation, some geologists holding it to be the lower Trinity and others that it is in the upper Permian; elevation is 96 feet.

One new location was announced in Arkansas during the last week. George Stephens and associates, erecting derrick for Dierke Lumber Company 1, NE NW Section 29-12S-31W, Little River County, southwest Arkansas.

Kendall Oil Company's Fullenwider & Kitchen 1, NE NE Section 13-17-22, Columbia County, a south Arkansas wildcat, is shut down waiting orders at 814 feet, after the test showed fresh water and a small amount of oil when tested. The fresh water and show of oil appeared after the hole had been bailed down 150 feet. Eight and one-fourth inch casing was cemented at 800 feet. The test had three feet of sand.

Drillers Oil and Development Company is arranging to set 6⅝ inch casing at 2128 feet in Pickering 1, Section 1-17-16, a wildcat in Union County, Arkansas, after coring 1½ feet of cap rock at that depth, with 4½ feet of oil sand immediately underneath; total depth is 2134 feet.

Sabine Parish Test East of Blue Lake Area Gets Oil Show

Shreveport.—George M. Le Grand claims to have penetrated three feet of sand showing both oil and gas which he identifies as Nacatosh at depth which he claims of 2140 feet (other reports give the total depth as 2243 feet), in Peterson 1, SW NE Section 34-7-13, Sabine Parish, Louisiana, six miles southeast of the four producing wells in the original west Zwolle (Blue Lake) field located in Section 14-7-14. Late last week arrangements were being made to set a string of six-inch casing; 10-inch surface casing was set at 40 feet.

Some doubt exists among geologists as to the identification of the sand encountered as Nacatosh. Due to the fact that test is far down the slope of the Zwolle structure it is believed the Nacatosh would not be encountered before the 2600-2700-foot level. It is regarded as possible that the sand is in the basal Wilcox which has shown oil and gas in various tests in Zwolle at the 1600-1700-foot zone but due to the lack of stratification is incapable in former tests of producing oil in commercial quantities.

Langbridge Oil Corporation's Stephens 1, SE NE Section 31-9-11, Sabine Parish, eight miles north of Zwolle production and six miles south of the Pleasant Hill field, which showed oil in drill stem tests in three feet of sand at 3360 feet and was drilled to total depth of 3626 feet, during the last week gave more promise of making a commercial well. The test last week bailed and swabbed 80 barrels of 39.1 gravity oil in 48 hours and later made 36 barrels of oil by heads in a 15-hour period through casing after refusing to flow through two-inch tubing set with packer. It is on a structure entirely separate from either that of Zwolle or Pleasant Hill.

Sixth Producer Promised for Zwolle Townsite Extension

Shreveport.—The sixth producer of six tests drilled in Section 1-7-13, a mile southwest offshoot of the Zwolle townsite part of the Zwolle field, appears to have been completed in Coates Petroleum Company's Hale 2, NW SW NE Section 1-7-13, flowing an estimated 200 barrels of oil daily from chalk rock at 2392 feet. The new well is an east offset to the same owner's Towery 1 and a west offset to the same company's Hale 1, all in Section 1-7-13. Top of the marl was 2097 feet, where six-inch casing was cemented and chalk was topped at 2108 feet. There were four breaks in the chalk from 2325 to 2392 feet.

Three new locations were announced in Zwolle for the last week. Davidson and Grigsby made location for Martinez 1, NW SE Section 2-7-13; Dengail Oil and Gas Company, for Nulton D-2, NW NE Section 1-7-13; and M. J. Kissick for Brown Lumber Company 1, NW NE Section 1-7-11.

Arcadia Drilling Company has derrick up for Mason 1, NE SW Section 28-18-6w, Bienville Parish, a wildcat near Gibsland, where a test a year ago in the same section that showed oil in the Nacatosh at the 2100-foot level in a drill stem test, later was abandoned as a failure.

Gerson and associates have spudded Smith Island 1, Section 1-10-8w, Natchitoches Parish, a wildcat. This test planned as the first of three operations on a block of 10,000 acres assembled by Dr. H. S. Gerson.

Clarke County Mississippi Test Cores Heavy Oil Sand

Jackson, Mississippi.—The eight-foot sand core which showed a saturation of heavy oil from 3692 to 3700 feet in Gulf Refining Company's Long-Bell Lumber Company A-1, SW SW Section 10-2n-16e, Clarke County, east central Mississippi, in a county bordering the Alabama state line, continued to hold chief interest in Mississippi during the last week. Seven-inch O.D. casing was cemented at 3785 feet by Halliburton Oil Well Cementing Company, total depth being 3700 feet. The sand core was in the Tombigbee series at the top of the Eutaw and corresponds in age to the Blossom of North Louisiana, Arkansas and East Texas.

Plug will be drilled and a test made probably during the week ending October 31. Whether the well is commercial well at present depth, is of course, problematical, but whether the test is a producer or not, the core indicates the possibilities of this formation as an oil producing sand in east central Mississippi. If it is not a producer the test will be deepened. The Selma chalk in the present test was topped at 2633 feet, after black shale was topped at 2290

feet; elevation is 380.3 feet. The chalk was about five feet thicker than in Gulf Refining Company's Box 1, several miles to the west of the present test, which was the first of a series of tests in Clarke County by the Gulf, Long-Bell Lumber Company A-1 being the second test of the series.

A number of oil scouts are making Meridian headquarters at present watching the test and oil men from several states are there looking over the possibilities of blocking acreage and starting tests if the present well is a commercial well.

This test is not on the Hatchitigbee anticline which extends northwest-southeast through several west Alabama counties into Mississippi, but is several miles northwest of this structure, according to several geological maps of the area.

Jackson Field Records One Completion and Two Locations

Jackson, Miss.—One gasser was completed and two new locations made in the Jackson gas field during the last week. In Hinds County, in the southwest part of the field, Love Petroleum Company completed Federal Compress 1, NE NW Section 15-5-1E, as an estimated 25 million cubic foot gasser in chalk, at total depth of 2446 feet. Black shale was encountered at 2352 feet and chalk at 2442 feet. Elevation is estimated as 270 feet.

Ferguson and associates are rigging up for Sours 1, NW SW Section 34-6-1E, Hinds County, in the northern part of the field, and Muse and Muse have derrick up in NW SW Section 12-5-1E, Rankin County, in the sontheast part of the field.

Hilgard Gas Company drilling a test on the west side of the Jackson field in Hinds County, Mississippi Company 1, SE SW NE Section 4-5-1E, approximately 2000 feet northwest of nearest production, is apparently checking low. This test was still in black shale at 2520 feet late last week and with elevation of 296.4 feet, its sub-sea depth is 2223.6 feet, while the nearest gasser to it secured production in chalk at sub-sea depth of 2128.5 feet.

Lowndes County Oil and Development Company has derrick up for Fee 1, Section 33-17S-16E, Lowndes County, in the Village of Crawford.

Test is Spudded in Chester County, Southwest Tennessee

Jackson, Mississippi—Gilmore and associates of Tulsa, have spudded in with cable tools for a 15-inch hole for Scott 1, in Chester County, southwest Tennessee, on a block of 10,000 acres checkerboarded around the location. A rotary rig is also said to be at the location, which is on the Henderson-Silverton highway, about 10 miles west of Henderson. Chester Couny Oil and Gas Company, which has been drilling a wildcat test in Decatur County, Tennessee, since November, 1928, now being shut down at 2511 feet, is said to have aided in assembling the block for the later test.

Larrimore Pool Well Good for 15 Barrels

San Antonio, Texas.—Ralph Ogden's Mrs. Sue Nealson, John B. Gray Survey, Larrimore pool, Caldwell County, has finally been completed at a depth of about 1307 feet, showing an initial production of 15 barrels of oil and considerable sulphur water. The Edwards was topped at 1297 feet. This is a low gravity fuel oil and is sold to the M. K. & T. railroad. This is said to be the shallowest Edwards lime field along the Balcones fault.

Third Deep Lime Producer in Wichita County is Imminent

Wichita Falls, Texas.—A third oil producer from the deep lime horizon in the K-M-A section of Wichita County is in prospect as result of Primrose Refining Company's and Consolidated Oil Company's Munger 1, located 1¼ miles southeast of the discovery well, having cored saturated lime at 3785-3799 feet. No estimates on the probable production are available, as casing must be run before a test of the formation is made. Moran Drilling Company has the contract on this deep test, and drilled with open hole below the 10-inch surface pipe at 160 feet. Considerable trouble has been experienced with the walls of the hole swelling and causing the drill stem to freeze, and for this reason no effort has been made to survey the hole for crookedness.

Two more failures were charged against the Chalk Hill deep oil area in Archer County during the past week, although one failed to drill to the probable producing horizon. W. E. Norton et al's L. F. Wilson 1, located in NEc S½ Section 63, A. T. N. C. L. Survey, and several miles northwest of production, halted operations at 2429 feet after running low on key formations. The Gunsight lime was reported at 1591-93 feet, with a surface elevation of 1036 feet. Consolidated Oil Company and Primrose Refining Company's L. F. Wilson 1, Section 116, located about two miles west of the pool's Canyon lime production, proved dry after drilling to 2315 feet.

Deep Oil Development Company's L. F. Wilson 1, lease 5-A, a west offset to the discovery well of the 2200-foot horizon, has resumed drilling in Ellenberger lime, which was topped at 5340 feet. It was drilling with 8¼-inch hole below 5600 feet late last week. The Ellenberger is expected to be from 1000 to 1400 feet thick, and this hard formation is bedded on the Cambrian limestone that is expected to be about 300 feet in thickness. Production is expected in the Hickory, or Reagan sand, that is supposed to underlie the latter formation. The tentative goal in depth was set at 6500 feet.

Liberty County Wildcat Depends on Results of Core

Houston.—The outcome of a paleontological examination of a core taken from L. B. Hause's C. T. Palmer 1, wildcat well of Liberty County, is being awaited with considerable interest as this issue goes to press.

This well, located three-quarters of a mile south of Cleveland, and 600 feet east and 1500 feet west of the southwest corner of the C. T. Palmer tract in the Palmer Survey, cored at 3149-56 feet and 3156-61 feet an oil saturated sand which the operators believe to be the Fayette section of the Jackson, Upper Eocene. There was quite a bit of gas on top of the cores.

C. T. Palmer 1 has been in shale with streaks of sand almost continuously since 2628 feet.

Plans of the operators called for a drill stem test October 28, pending the outcome of the above mentioned paleontological examination.

Los Angeles.—Standard Oil Company of California is considering the drilling of a well on Santa Rosa Island, offshore from the mainland near Santa Barbara County, and has already sent a surveying crew for a preliminary survey of the island. The company more than a year ago obtained leases on more than 50,000 acres on Santa Cruz Island, near Santa Rosa Island.

Northern Mexico News Developments

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Mier Structure Gas Well to Be Connected With Pipe Line

Monterrey, Nuevo Leon, Mexico.—First commercial production for Northern Mexico has been developed by Ohio Mexico Oil Corporation, which has completed La Presa 1, on the Mier structure, state of Tamaulipas, eight miles south of Roma, Texas, as a producer which is to be connected with an existing natural gas pipe line serving domestic and industrial consumers in and adjacent to Monterrey.

Ohio Mexico Oil Corporation last week made a contract with Compania Mexicana de Gas, S. A., a unit of United Gas system (controlled by Electric Bond & Share Company) whereby the wildcat producer is to be connected with the latter's 13¾-inch pipe line. That line comprises 96 miles of pipe between Monterrey and the Rio Grande, and it continues 47 miles north from the river at a point near Roma, Texas, to the Jennings gas field, Zapata County, Texas, from which the natural gas supply is obtained, the Texas portion of the line being operated by an American unit of the United Gas system. Ohio Mexico Oil Corporation is a Mexican corporation, and its holding company is Mexico Ohio Oil Company, a Delaware corporation, which in turn is a subsidiary of Ohio Oil Company of Findlay, Ohio.

Located eight miles south of Roma, Texas, and about 16 miles west and a little south of Rio Grande City, Texas, La Presa 1, the discovery gas producer, is only about six miles southeast of the gas line to which it is to be connected. The well was spudded about April 1, 1931, and 12¼-inch casing was set at 1268 feet. At about 1300 feet gas sand was encountered, and on a drill stem test it showed 600 pounds pressure and open flow capacity was estimated around 7,000,000 cubic feet daily. The well was subsequently drilled to about 1750 feet, but it was later decided to plug back, and the present total depth is 1485 feet. The present production is believed, however, to be coming from the gas horizon at 1300 feet, and the capacity of the well is estimated at about 13,000,000 cubic feet daily.

Ohio Mexico Oil Corporation plans to move machinery from La Presa 1 to a new location 400 meters northwest, where a second test of the structure will be drilled immediately.

The Mier structure, on which the gas well was completed, is controlled wholly by Ohio Mexico Oil Corporation, the company holding concessions covering an area of five miles square, or about 16,000 acres, extending from a point three miles south of Mier, Tamaulipas, to a point about eight miles south of Mier. This structure is an anticline trending northwesterly-southeasterly, and it is located only about five miles south and west of the Mexican half of Roma structure. The Texas Company has drilled over one-half dozen wells on the American half of the Roma structure, obtaining gas production from several wells and completing one well which yielded about 25 barrels of 34 gravity crude daily, both the gas and oil coming from around 3600 feet from Cook Mountain or Mount Selman sand formation.

Ohio Mexico Oil Corporation also has a large concession of about the same size as the one described above, extending northwesterly from a region five miles north of the town of Mier, and may have a structure within that concession.

Ohio Mexico Oil Corporation also has under way another wildcat test in Northern Mexico, its Hinojosa 1, located on the North Aldamas anticline, state of Nuevo Leon, about 12 kilometers southeast of the town of General Trevino on a concession owned by the Corona (Shell) interests. Hinojosa 1 has encountered considerable mechanical difficulties since it was spudded a little over one year ago. It has depth of 3425 feet, and preparations were being made recently to drill out cement which had been pumped to the bottom of the hole in an effort to eliminate loss of rotary drilling mud returns. This well is the first to be drilled on the North Aldamas structure, although there has been limited drilling on the South Aldamas anticline a few miles farther south, including a well of Duncan McMillan et al which yielded showings of oil and gas between 1200 and 2000 feet.

Aside from its concessions in the vicinity of Mier, Tamaulipas, the Ohio Mexico Oil Corporation has extensive holdings farther northwest in Mexico in the state of Coahuila. The company is credited with concessions in that state aggregating about 4,500,000 acres, and covering several structures, including Tenientes structure about 25 miles west of Del Rio, Texas. Ohio Mexico Oil Corporation has its headquarters in Saltillo, Coahuila, in charge of F. W. Messimer, managing director.

Sand With Gas Odor Is Cored On South Aldamas Structure

Monterrey, Nuevo Leon, Mexico.—Duncan B. McMillan et al's Santa Monica 5, on the South Aldamas anticline, state of Nuevo Leon, is reported shut down after coring sand with gas odor at 2260 feet.

This structure has previously appeared promising through drilling of the above interests' Santa Monica 1, which had a gas sand at 1200 feet estimated capable of yielding 10,000,000 cubic feet daily, and which yielded 49 gravity oil in non-commercial quantity from sands between 1700 and 2000 feet before being drilled deeper to about 3650 feet.

The oil development company of the federal government of Mexico in 1930 abandoned a test, Ferronales 205, on the railroad right-of-way on the north end of the South Aldamas anticline, quitting it at 1502 feet following mechanical difficulty.

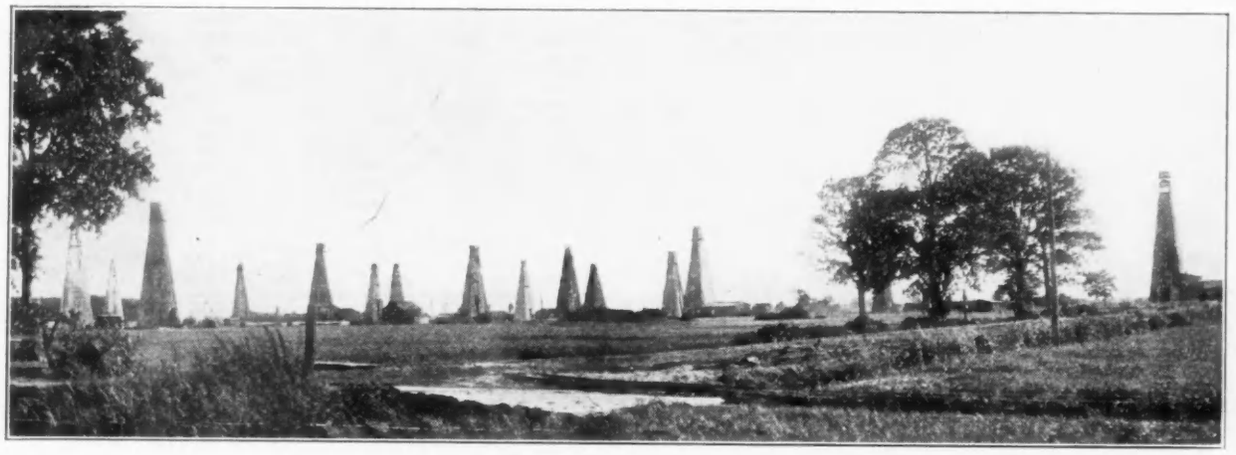
Northern Tamaulipas Test Is Drilling at 1000 Feet

Monterrey, Nuevo Leon, Mexico.—Compania de Petroleo Mercedes, subsidiary of Standard Oil Company of New Jersey, has reached the depth of 1000 feet in San Juan 1, on the Ochoa structure, northern portion of the state of Tamaulipas, and was recently reported changing rig on the test. The well is located about 15 miles south of Rio Grande City, Texas.

San Antonio, Texas.—Arthur H. Wray's Roche 1, A. Hutzler Survey, Section 123, Frio County, is preparing to drill to the Edwards lime after showing nothing on several drill stem tests at 2404 feet. This well is 1500 feet southwest of the same operator's Burns 1, which showed some gas at this level.

INTERNATIONAL PETROLEUM
IN REVIEW

ROY E. LEIGH, *Foreign Editor, New York*



Neinhagen field, Germany

Canadian Petroleum Trade Analyzed

Washington, D. C.—An analysis of the petroleum trade of Canada, by F. J. McCarthy, of the Minerals Division, United States Bureau of Foreign and Domestic Commerce, reveals that the United States supplied 68 per cent of Canada's imports of crude oil, which totaled 29,172,426 barrels during 1930. Figures quoted in this report are of interest in that they illustrate the general trend of American export trade in petroleum products. The more conspicuous features of this general trend are as follows:

(a) Increasing volume: Exports of crude oil and gasoline from the United States to Canada increased from 14,437,349 barrels and 2,501,411 barrels, respectively, during 1926, to 19,817,071 barrels and 4,063,492 barrels during 1930.

(b) Declining percentage: The United States supplied 85 per cent of Canada's crude oil imports and virtually all of her gasoline imports during 1926; but in 1930 these percentages had declined to 68 per cent and 92 per cent, respectively. Shipments from the Dutch West Indies of gasoline refined from Venezuelan crude appear to have broken our monopoly of the Canadian gasoline trade during last year. In the crude market, Venezuela, Colombia, and Peru gained the proportion lost by the United States.

(c) Increasing consumption: Canadian demand for gasoline increased approximately 100 per cent during the last five years.

"Canadian production of 1,433,844 barrels of crude oil in 1930 was larger than in any previous year. Production is almost entirely in the Alberta district, and Turner Valley accounts for 92 per cent of the output of that district.

Refining

"There are 15 refineries operating at strategic points throughout Canada. In 1930 these plants used 30,412,428 barrels of crude oil, 19,796,999 of which were from the United States, 9,143,347 from South America, and 1,472,081 from Canadian wells."

Refining plants referred to above appear to be located in four general districts.

"The six refineries in the (Quebec) district receive their crude oil from the United States by pipe line at Port Huron, by tank cars across the border, and by tankers up the St. Lawrence to Montreal.

Of the Prairie Provinces, it is said that "owing to the proximity of the domestic oil fields, a substantial portion of the crude used in Alberta refineries was Canadian. There is also tank-car shipment into this area from the Mid-Continent oil fields."

"In the Maritime Provinces roads are not as well developed . . . Most of the package goods and a percentage of the refined products come from the North Atlantic United States. Crude and fuel oil are shipped from the Gulf States and South America. The refinery in Halifax also supplies a large part of the demands of that area.

"The Pacific Coast region has fair roads . . . Practically all of the oil for refinery purposes, as well as refined products for consumption, are received from California."

Mexican Production Off in September

Mexico City.—The Department of Industry, Commerce, and Labor estimates that Mexican crude oil production totaled 2,628,227 barrels during the month of September, as compared to a total of 3,242,922 barrels during September of last year.

Soviet Production Quotas Are Set

New York City.—The Soyusneft organization at Moscow, charged with the general administration of the Soviet oil industry, has announced a production quota of approximately 252,000,000 barrels in 1932 and 331,200,000 barrels for the year following. As production totaled approximately 35,828,000 barrels during 1930, it is seen that next year's quota is nearly double that of last year.

If these quotas are attained Soviet oil output will ap-

proach an average of 700,000 barrels per day next year and will exceed an average of 900,000 barrels daily during 1933. If the goal set for the end of the Second Five Year Plan is reached, production during 1938 will approach an average of 3,000,000 barrels per day.

Quotas for the individual operating trusts organized on geographical basis have been established as follows:

District—	1932	1933
Baku	144,000,000	172,800,000
Grozny	76,320,000	88,560,000
Maikop	18,720,000	25,200,000
Emba and other smaller fields	12,960,000	44,640,000
Total	252,000,000	331,200,000

Standard to Drill Near Pedernales

Maracaibo, Venezuela.—Standard Oil Company of Venezuela is moving in equipment for use in drilling a wildcat test on the Kilemeter Strip subleased from Venezuela Consolidated Oilfields, Ltd., near Pedernales, on the east coast of Venezuela, across the Gulf of Paria from Trinidad, British West Indies. It is reported that a pooling arrangement has been negotiated with Mexican Seaboard Oil Company, owner of extensive leases in the immediate vicinity. Location is at the mouth of the Cano Manamo, near the town of Pedernales.

John Sallee, Field Superintendent for Sheldon & Burden, Turner Valley field

Mexican Production By Companies

Mexico City, Mexico.—Following are details of Mexican crude oil production for the month of July, 1931, being the latest period for which official figures are available in this country:

	Heavy	Light	Total
Aguila, El, Cia. Mex. de Pet.	1,396	184,787	186,183
Agwi, Cia. Petrolera del	....	7,173	7,173
American International Fuel Company	2,518	....	2,518
Aztlan, Cia. de Inversiones	192	171	363
Bravo Drilling Company	70	....	70
Capuchinas, Cia. Petrolera	446	2,300	2,746
Cochran, R. B.	3,292	....	3,292
Control de Admon. del Pet. Nac.	5,249	....	5,249
Corona, La., Cia. Mex. Hol. de Pet.	20,552	3,482	24,034
Continental Mexican Petroleum Co.	....	95	95
Cosmos Oil Company	354	1,003	1,357
English Oil Company	189	....	189
Farrow, H. A.	451	....	451
Financiera de Petroleo	73	256	329
Franco-Espanola	4,769	....	4,769
Globe Petroleum Company	1,526	....	1,526
Gonzales Meriwether	....	1,894	1,894
Craig & Barbour	....	121	121
Green & Company	336	....	336
Head Martin	95	....	95
Hispano-Cuba	....	806	806
Huasteca Petroleum Company	56	21,838	21,894
Imperio, Cia. de Gas y Combustibles	36,152	....	36,152
International Petroleum Company	13,743	6,589	20,332
Itamex Oil Company	1,114	....	1,114
Kern Mex Oil Fields	1,711	....	1,711
Maza Francisco y Luz E	53	....	53
Manuel C. Maza	590	....	590
Mexican Atlas Petroleum Company	2,680	739	3,419
Mexican Gulf Oil Company	6,106	18,928	25,034
Mexican Oil Company	161	....	161
Mexican Sinclair Petroleum Corp.	9,537	799	10,336
Graesser, E. S. en C	794	....	794
Mexicana de Combustible	353	700	1,053
Mexicana de Petroleo	42,700	....	42,700
Mexico, Cia. Nacional de Pet.	162	....	162
Meza Moreno Teodoro	624	....	624
Minerva, Cia. Petrolera	3,473	....	3,473
Nacional Explotadora de Pet.	524	....	524
National Oil Company	820	....	820
New England Fuel Oil Company	2,446	....	2,446
Nienau, William	24	....	24
Penn Mex Fuel Company	3,089	28,451	31,540
Petroleos Nacionales	1,758	....	1,758
Piper, R. G.	....	116	116
Placeres, Cia. Petrolera	....	56	56
Rivers, Theo	....	131	131
Sanchez, Rodolfo	197	....	197
Schlaet, Carl V.	550	71	621
Sol, El, Cia. Mexicana de Pet.	446	....	446
Standard Drilling Company	83	....	83
Tampico-Amatlan	....	179	179
Tantuan, Cia. Petrolera	....	1,425	1,425
The Texas Company of Mexico	2,143	1,702	3,845
Tiera Amarilla y Anexas	....	601	601
Tillotson, A. R.	26	....	26
Thomas, R. y Cia.	146	....	146
Transcontinental de Petroleo	19,587	7,218	26,805
Tuxpan Petroleum Company	....	8,186	8,186
Ulises, Cia. Petrolera	2,780	....	2,780
Venable, H. G.	61	309	370
Vincent, M. L.	....	1,140	1,140
Totals—			
Metric tons	196,197	301,266	497,463
Barrels	1,234,079	1,894,963	3,129,042

Grozny-Ukraine Line Completed in September

Moscow, U. S. S. R. — Construction of the entire southern section of the Grozny-Ukraine pipe line was reported as having been completed during September.

Colon District

Production of Colon Development Company, Ltd., operating in the Colon District, south of Maracaibo Lake, averaged approximately 21,200 barrels per day.

Tocuyo

Production of Tocuyo Oilfields, Ltd., operating on the north coast of Venezuela, averaged approximately 460 barrels per day during a recent accounting period.

Egypt

Anglo-Egyptain Oilfields, Ltd., report an output averaging approximately 5000 barrels per day during the week ended October 2, 1931.

Completions for Past Week in U. S. Fields

▼ ▼ ▼

TEXAS

CENTRAL EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
JOINER FIELD—		
Acme Oil Co., M. L. Thompson 1	5500	3720
T. C. Adams et al, J. E. Arnold (25-ac) 2	4000	3695
Arkansas Fuel Oil Co., G. Ferguson (75-ac) 2	6000	3680
Wheelis 2	2500	3718
Blackwell O&G Co.-Jones Bros., W. P. Moore (27-ac) 3	5000	3672
British-American Oil Prod. Co., Kangerga 1-B	6000	3654
Mayfield (45-ac) 2	4500	3627
Jim Cloud, Inc., S. Stone (53-ac) 4	7000	3708
Golding-Murchison Oil Co., A. B. Blackwell (80-ac) 4	7200	3650
Grayburg Oil Co., Kangerga (40-ac) 1	8500	3670
Gulf Prod. Co., Mayfield (101-ac) 1-C	11,000	3671
L. P. Thrash (76-ac) 3	7800	3724
Humble O&R Co., J. D. Florey (89-ac) 2	6500	3755
J. E. Glover (130-ac) 6	9000	3814
J. J. Pitner 1	10,000	3722
S. A. Plowman (228-ac) 11-A	7000	3726
J. Thompson (80-ac) 3	11,000	3715
H. L. Hunt et al, C. Young (125-ac) 6	6000	3710
E. W. & F. D. Jones Drlg. Co., W. R. Moore (33-ac) 2	6500	3663
Mid-Kansas O&G Co., M. Kangerga (60-ac) 1	4800	3635
L. B. Rollins (66-ac) 1	8000	3656
M. L. Thompson (95-ac) 2	7000	3631
Navarro Oil Co., C. Young (30-ac) 1	10,000	3762
Rubin & Wiseman, W. P. Keeling (5-ac) 1	6500	3753
Sinclair O&G Co., F. B. Wilson (124-ac) 6	6000	3647
Sonbar Oil Co. (T. E. Barton, A. P. Finney 1	9500	3710
Stanolind O&G Co., H. Schuler 1-B	500	3688
Sun Oil Co., O. W. Knight (264-ac) 4	6800	3627
R. G. Mason (39-ac) 2	4800	3673
The Texas Co., A. J. Jarvis 1	5500	3622
J. W. Turner (70-ac) 1	7500	3790
Thompson & Bean, Alford 1	200	3692
Tidal Oil Co., M. Thompson 1-B	5000	3686
Woodley Pet. Co., M. M. McMillan (40-ac) 1	5000	3750
KILGORE FIELD—		
Continental Oil Co., C. C. Crews (160-ac) 3	8000	3691
Empire Gas & Fuel Co., C. O. Christian (103-ac) 1	5000	3773
C. O. Christian (103-ac) 2	5000	3779
Humble O&R Co., Henry Sexton (64-ac) 2-B	7000	3725
H. P. Key et al, Joe A. King (5-ac) 1	7000	3650
C. L. McMahon et al, S. S. Laird (45-ac) 3	12,000	3638
Harry S. Moss (Imperial Pet. Co.) Ida Waldron-Knowles 1	1000	3600
Petroleum Finance Corp., Clayton (10-ac) 1	12,000	3557
Sinclair O&G Co., A. A. King 8-A, Tract No. 1	8300	3580
H. R. Smith et al, Ben & S. S. Laird 1	6500	3600
Sun Oil Co., C. H. Hilburn-Lloyd (133.7-ac) 8	10,000	3694
The Texas Co., M. T. Cole (192-ac) 3	8000	3560
Tidal Oil Co., Mary & Tipton Bean 5	9000	3635
Wheelock & Collins, D. Wills (220-ac) 3	9000	3730
Williams et al, Chas. Smith 1	†	3746

For Tabulation and Comparison See Market Section

Company, Well and Location	Initial Production Bbls.	Depth
LONGVIEW FIELD—		
Alma Pet. Corp., J. B. Watson 1	9000	3676
Almeda Oil Co., Doby 1	12,000	3702
Amerada Pet. Corp., L. R. Hearne (108-ac) 1	8500	3535
Arkansas Fuel Oil Co., G. B. Tenery 1	7000	3598
B. J. Adrian-McCrary (60-ac) 1	15,000	3598
W. L. Hestland (32-ac) 3	9000	3625
R. S. McKinley (69-ac) 2-B	12,000	3628
R. S. McKinley (69-ac) 3-B	12,000	3575
J. A. Whittaker 2	10,000	3530
J. A. Whittaker 3	10,500	3546
Atlantic Oil Prod. Co., Jas. Wilson (100-ac) 1	15,000	3612
Barnsdall Oil Co., R. E. L. Ferguson (35-ac) 1	9000	3678
R. E. L. Ferguson (35-ac) 2	10,500	3667
Barnsdall-Houston Oil Co., McGrede 12	12,000	3659
Barnsdall-Sun Oil Co., L. Bingham 2	8000	3567
Bishop Corp., E. G. Richey (25-ac) 2	9500	3615
California Pet. Corp. of Ven., A. J. Deering (70-ac) 2	7500	3680
C. B. Johnston (22-ac) 1	8500	3600
Mrs. I. Walker (120-ac) 1	8000	3640
Deaner & R. W. Vierson, Victory (25-ac) 1	11,000	3630
East Texas Ref. Co., G. W. Tuttle 1	15,000	3530
F. White (96-ac) 2	8000	3600
Empire Gas & Fuel Co., L. A. Jeter (121-ac) 2	9500	3574
J. L. Spurrier 1	10,000	3601
Fain-McGaha Oil Corp., C. C. Clements (50-ac) 4	15,000	3616
F-H-E Oil Co.-Fleming & Kimball, J. F. Flemister (37-ac) 3	11,000	3638
B. G. Christian 2	12,000	3672
M. E. Gaskill et al, S. Kay 1	15,000	3657
Granite Oil Co., Victory 1	9000	3672
Gulf Prod. Co., F. M. Fonville (100-ac) 2	13,500	3541
Lacy-Snyder 3	13,000	3516
M. O. Sheppard 3	12,000	3538
Humble O&R Co., W. W. Holland (245-ac) 5	8400	3594
Delia Johnston (57½-ac) 2-B	7700	3640
M. Wills (70-ac) 1	8500	3739
Magnolia Pet. Co., R. A. Adkins (100-ac) 3	8400	3697
E. H. Brawley (80-ac) 2	12,000	3491
L. J. Everett (171.1-ac) 8	15,000	3594
D. Manziel & S. S. Kouri, New Hope Church (1-ac) 1	8000	3623
Margay Oil Corp., J. Freeman (28-ac) 1	10,000	3727
Mudge Oil Co., J. W. Free 3	7000	3745
Murphy et al, J. B. Doby 1	11,000	3545
Olstein et al, O. F. Smith 1	12,000	3664
O. W. R. Oil Co. (Owens) C. E. Davis (18.3-ac) 2	7000	3576
C. E. Davis (18.3-ac) 3	9000	3578
Roeser-Pendleton, Inc., D. D. Sheffield (50-ac) 2	7500	3655
Sakaba Oil Corp., C. H. Moore (15-ac) 2	6500	3600
Shell Pet. Corp., E. H. Brawley 1	7000	3699
W. T. Burnsides 1	9000	3559
Sinclair O&G Co., J. R. Williams (82-ac) 4	8000	3500
Stanolind O&G Co., C. C. Shoults (21-ac) 1	8000	3749
C. C. Shoults (21-ac) 2	8500	3699
J. F. Wilhite (29-ac) 4	11,000	3699
Stanolind-Simms Oil Co., J. J. Flewellen 1-B	12,000	3684
G. F. Meadows (50-ac) 3	5500	3693
Sun Oil Co., J. M. Haynes (202-ac) 5	8500	3616
Superior Oil Co., A. Jones (64-ac) 2	10,000	3672
Tidal Oil Co., E. M. Nettleton 3, Lse. 2	10,000	3500
Vacuum Oil Co., J. H. Beavers (75-ac) 3	9000	3565
Wrightsman Oil Co., G. E. Adams (34-ac) 1	11,000	3625
Yount-Lee Oil Co., A. A. Castleberry 1	12,000	3604
L. E. Orms (55½-ac) 2	9500	3503

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
Consolidated Oil Co.-Primrose Ref. Co., L. F. Wilson 1	•	2315
W. E. Norton et al, L. F. Wilson 1	•	2429
Perkins & Cullum, Falls County 1-B	50	1165

TEXAS PANHANDLE

Company, Well and Location	Initial Production Bbls.	Depth
CARSON COUNTY—		
Canadian River Gas Co., J. Q. Bost 2-C	¶13½	2852

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
UPTON COUNTY—		
Porter Rankin et al, Cordova Union 1	•	4006
WARD COUNTY—		
Buster Black et al, Hall-Roberts 1	130	2455
Gulf Prod. Co., G. W. O'Brien 18	630	2793
Peck & Fuglar, Geo. Merritt 1	10	2234

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
BARBERS HILL—		
Sun Oil Co., J. Wilburn 11	200	2610
Mill Bennett, J. F. Wilburn 5	1800	4407

SOUTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
Callcasieu Oil Co., Landry 3	13	2660
EAST HACKBERRY—		
Yount Lee Oil Co., Kelso Bayou 43	500	3000
IOWA DISTRICT—		
Vacuum Oil Co., Wait 1	3360	6971
STARKS DOME—		
Gulf Ref. Co., Lutcher Moore 28	25	1210

MISSISSIPPI

Company, Well and Location	Initial Production Bbls.	Depth
HINDS COUNTY (Jackson Dist.)—		
Love Pet. Co., Federal Compress 1 15-5-1E	¶25	2446

NEW MEXICO

Company, Well and Location	Initial Production Bbls.	Depth
EDDY COUNTY—		
Flynn-Welch & Yates, State 60	•	2000

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
DOMINGUEZ—		
Union Oil Co., Carson 4	2250	4766
INGLEWOOD—		
Standard Oil Co., L. A. I. 67	175	1957
KETTLEMAN HILLS—		
Superior Oil Co., Huffman 3	14,000	8490
LONG BEACH—		
Ring Pet. Corp., No. 18	1000	8248
Dabney-Johnston Oil Corp., No. 84	125	5400
Richfield Oil Co., R. C. 9	100	7500
PLAYA DEL REY—		
Ohio Oil Co., Gun Club 11	300	5785
SEAL BEACH—		
Continental Oil Co., McGrath-Selover 25	50	6364

SOUTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BEE COUNTY—		
Slick Estate's Ray 1	*	4135
CALDWELL COUNTY—		
Ralph Ogden's Nealson 1	15	1307
DUVAL COUNTY—		
Mag. Pet. Co.'s Wilson 5	400	2416
GOLIAD COUNTY—		
Stanolind & Camp's Pettus 2	*	4520
GUADALUPE COUNTY—		
Camp's Dan Denman 1	1500	2400
Humble O&R Co.'s Dan Denman 1	3600	2359
WEBB COUNTY—		
Winfield Killam's Johnson 1	*	2048
E. A. Sterling's de la Garza 1	¶14	2208
ZAPATA COUNTY—		
F. H. Etheridge's Henne-Winch 1	*	1781
Bustamante 1	300	1478
O. W. Killam's Cuellar 30-A	*	1545
Trevino Oil Corp.'s Trevino 12-A	25	1225

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BUTLER COUNTY—		
Flint Hill O&G, Martin "B" 1, ne c sw 27-28-4e	¶1	1475
CHAUTAUQUA COUNTY—		
Leighty and Prairie O&G, Lemert 3, sw se ne 36-34-9e	*	2635
GREENWOOD COUNTY—		
Stanolind O&G et al, Ellis 6, sw c nw 27-23-11e	170	1882
McPHERSON COUNTY—		
Phillips Pet. Co., Morehouse 1, sw nw nw 3-21-3w (owd)	100	3385
Dieter, Youker et al, Sellers 2, nw c sw 19-19-1w	1215	3396
Abilene Oil Co. et al, Garrett 1, nw c ne 30-19-1w	680	3419
Lario O&G et al, Boal 1 (owd), se c nw 24-19-2w	1485	3390

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CREEK COUNTY—		
O. C. Baltzell et al, Land 1, sw c nw 12-18-11e	20	1424
LINCOLN COUNTY—		
Magnolia Pet. Co., Cash 1, sw ne sw 6-14-4e	*	5130
MARSHALL COUNTY—		
M. A. Neff, Rice 1, se c 10-5s-5e	*	862
MUSKOGEE COUNTY—		
R. B. Hash et al, Grayson 1, nw c se 35-16-15e	¶¼	1072
OKMULGEE COUNTY—		
Mack Drlg. Co., Anderson 1a, sw c ne ne 36-16-14e	30	1360
PAWNEE COUNTY—		
T. E. Harris et al, Twedy 1, se ne nw 14-20-9e	¶¼	953
M. B. Jensen, Tate 3, ne c nw 9-20-9e	*	1340
WAGONER COUNTY—		
Boley et al, Haney 1, sw c ne ne 13-17-15e	*	1007
A. A. Swift, Adams 1, se c sw se ne 7-16-17e	*	1700

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn — abandoned; bbls—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd — shut down; sdtr — sidetracking; sp — spudding; sr — straight reaming; std — standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BUTLER COUNTY—		
Ethridge & Co., West 6	¶¼	....
BRADFORD FIELD—		
Myron W. Mason, Mason 1	3	....
Healey Petroleum Co., Degolier 1	2	....
J. H. Brahaney, Johnson 1	3	....
S. H. Elder & Co., Glenn 1	2	....
Lincoln & Brink, Lincoln & Co., 47	5	....
CLARION-VENANGO COUNTIES—		
Moses Karlen, Watson 4	2	....
Ray Sporer, Sporer 2	¶½	....
Rice & Thompson, Osmer 8	*	....
W. B. Kapp & Co., Sporer 5	¶½	....
CENTER-MIDDLE FIELD—		
Kinley Oil Co., Alexander 1	2	....
A. F. Dunham & Co., Dunham 11	2	....
SOMERSET COUNTY—		
American Natural Gas Co., Maust 1	¶½	....
WASHINGTON COUNTY—		
Ropp Oil & Gas Co., McCauslin 1	¶¼	1600

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
ALLEGANY COUNTY—		
Gilligan & Co., Gilligan 5	10	....
Pure Penn Oil Co., Kinley 6	2	....
First National Bank of Olean, Birtell 7	5	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
CALHOUN COUNTY—		
C. A. Jarvis & Co., Fresnour 1	¶¼	....
GILMER COUNTY—		
McCall Drilling Co., Stout 3	¶¼	1823
KANAWHA COUNTY—		
Winifrede Gas Co. 1	¶¼	....
MINGO COUNTY—		
F. H. Yates, Stroud 1	50	1936
MARSHALL COUNTY—		
Fry & McCracken, McGinnis 2	¶1½	....
WETZEL COUNTY—		
Manufacturers Light & Heat Co., Joliffe 2190	1	....

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
MORGAN COUNTY—		
Ohio Fuel Gas Co., Boilesu 1	¶¼	812
McInturf & Talbot, Daugherty 4	*	910
WASHINGTON COUNTY—		
F. M. Russell & Co., Martin 1	*	580
McTaggart & Co., Shaw 11	¶¼	1859

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
ASHLAND COUNTY—		
Ohio Fuel Gas Co., Weisman 2	¶¼	....
COSHOCTON COUNTY—		
M. F. Whitehill, Allen 1	*	3078
LICKING COUNTY—		
McClay Bros., Hoover 4	¶¼	2953
MEDINA COUNTY—		
Commonwealth Gas Corp., Barnes 1	*	2739
MUSKINGUM COUNTY—		
Hopewell Gas Co., Morningstar 2	¶¼	4122
MEIGS COUNTY—		
Fairfield Gas Co., Chaney 3	¶¼	933
Ohio Fuel Gas Co., Davidson 1	¶¼	1530
Epple 2	¶1	885
STARK COUNTY—		
East Ohio Gas Co., Hinkel 1	¶3	4436
TUSCARAWAS COUNTY—		
Local Oil Co., Marthey 1	¶¼	5033

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
HARDIN COUNTY—		
Wiser Oil Co., Geiger No. 1 tr. 5	3	1377
Kurtz Gas Co., Kurtz 1	*	1360
OTTAWA COUNTY—		
Emery Qualman, Qualman 1	¶¼	400

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
DAVIESS COUNTY—		
S. A. Cobb & Co., Howard 3	35	....
OHIO COUNTY—		
S. H. Russell & Co., Haynes 1	*	820

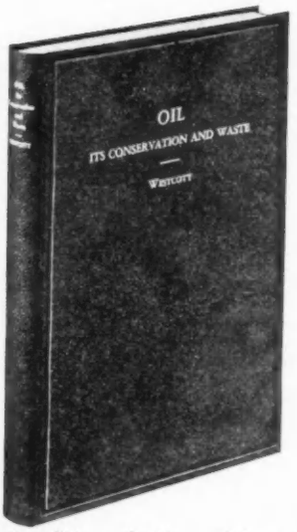
MICHIGAN

Company, Well and Location	Initial Production Bbls.	Depth
GRATIOT COUNTY—		
Miller & Combs, Kerr 1	¶1½	500
Maeston & Co., Cornwall Hrs. 1	¶1½	500
Earl E. Durham, Durham 1	¶1½	500
Unknown Parties, Gibbs 1	¶1½	500
ISABELLA COUNTY—		
Mellon-Pollock Oil Co., Thayer 1	2400	3550

Oil, Its Conservation and Waste

By JAMES H. WESTCOTT

FOURTH EDITION, OCT., 1930



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▼ ▼ ▼

CALIFORNIA

FRUITVALE—Mohawk Pet. Co., McDermott 1, 21-29-27.

TEXAS

ARCHER COUNTY — Schulz & Weaver, Wichita Falls, F. C. Green, 160, 5, J. Lewis sur, 262 ft from s and 750 ft from w line. Consolidated Oil Co., Wichita Falls, L. F. Wilson, 40, 1, B 76, Amer. Trib. sur, 150 ft from s and w lines. Dr. C. W. Wallace, Wichita Falls, Fee, 167, 6, S.P. Ry. No. 1 sur, 350 ft e of No. 5. W. T. Maxon, Jr., Wichita Falls, F. C. Green, 10B, J. Levins sur, 393 ft from n and 2000 ft from w line.

BEE COUNTY — J. C. Hughes, Beeville, Martin, 72, 1, Jno. Tyford sur, 150 ft from nw and 197 ft from e line.

BROWN COUNTY—Caldwell Bros., Brownwood, J. D. Caldwell, 80, 1, S 279, K.C.S.L. sur, 600 ft from n and w lines. Crabb & McNeel, Cross Plains, J. W. Ellsberry, 257, 7, J. L. Williams sur, 450 ft s of No. 6.

BEXAR COUNTY—Alamo Natural Gas Co., San Antonio, G. J. Gembler, 431, 1, No. 51 A. Manchaca sur, 150 ft from e and 1000 ft from s line.

COLEMAN COUNTY—Jamison, Pollard & Forster, Coleman, J. M. Witcher, 40, 1, Blk. 4, J. Scott sur, 150 ft from s and e lines.

CALLAHAN COUNTY—M. D. Heist, Putnam, J. S. Hart, 80, 2, S 6, D&D Asy. sur, 450 ft from n and 150 ft from e line.

CHEROKEE COUNTY—Wilson-Stubbs Oil Corp., Corsicana, L. Rowberts, 100, 1, J. D. Wolfin sur, 150 ft from w and 800 ft from s line.

CHAMBERS COUNTY—Nat Hunter Prod. Co., Houston, E. W. Barber, 38 B3, H. Griffith sur, 218 ft sw of No. 2.

DUVAL COUNTY—Cole Pet. Co., Laredo, R. V. Benavides, 40, 71, S 19, B 8, M. Arispe sur, 300 ft se of No. 71. S.R.C. Oil Corp., San Antonio, Duval Ranch, 645, 5, S 293, GC& SF sur, 400 ft nw of No. 3.

EASTLAND COUNTY—Texas Co., Cisco, J. T. Stamps, 90, 1, S 77, B 4, H&TC sur, 630 ft from w and 345 ft from s line.

FRATH COUNTY—G. M. Applegate, San Diego, Calif., R. L. Acrea, 250, 1, A. Briscoe sur, 200 ft from s and w lines.

GREGG COUNTY — Lechner & Hubbard, Dallas, J. M. Tuttle, 25, 1, Castleberry sur, 450 ft from n and 203 ft from w line. J. H. Massie, Wichita Falls, M. Fenn, 28, 2, H. Edwards sur, 550 ft n of No. 1. W. D. Ambrose, Longview, G. Jones, 40, 3, G. W. Hooper sur, 660 ft w of No. 2. Sneed & Sneed, Tyler, L. Willis, 13, 1, G. W. Hooper sur, 370 ft from n and 430 ft from e line. T. S. Schroeder, Dallas, J. C. Bumpas, 26, 1, W. H. Castleberry sur, 150 ft from w and 210 ft from s line. S. M. Dunbar, Houston, H. Ector, 1, 1, M. Van Winkle sur, center. Clyde Vinson, San Angelo, T. Elder, 8, 1, M. Van Winkle sur, center. M. E. Stephens, Tyler, A. Muckelroy, 1, 1, M. Van Winkle sur, 154 ft from w and 112 ft from s line. J. C. Hawkins, Tyler, Sabine Sch., 1, 1, Jno. Ruddle sur, center. W. J. May, Gladewater, R. Bumpas, 4, 1, Grigsby sur, 151 ft from n and 158 ft from e line. C. R. Starnes, Tyler, G. C. Dunnaway, 1, Gladewater sur, center of Blk. 5. P. L. Hoffman et al, Tyler, J. Bumpas, 10, 1, W. C. Castleberry sur, 263 ft from w and 253 ft from s line. J. W. Clark, Inc., Shreveport, La., M. Jones, 3, 1, W. H. Castleberry sur, 450 ft from w and 370 ft from s line. T. H. McKinnie, Kilgore, W. H. Anderson, 72, 1, M. Van Winkle sur, 67 ft from w and 101 ft from n line. Imperial Pet. Co., Dallas, W. C. Shoults, 21, 1, M. Irwin sur, 300 ft from n and 220 ft from w line. Bailey & Trimble, Eldorado, Ark., G. Jones, 15, 1, Hooper sur, 330 ft from n and e lines. Dyck Oil Co., Tulsa, Okla., J. M. Christian, 37, 2, G. W. Hooper sur, 330 ft from s and w lines; 3, 330 ft from s and e lines. B. K. Isaacs, Fort Worth, T. B Harris, 21, 1A, Castleberry sur, 330 ft from n and 332 ft from e line. Margay Oil Corp., Tulsa, Okla., T. Christian, 25, 2, G. W. Hooper sur, 330 ft e of center of w line; J. Freeman, 28, 2, M. Irwin sur, 308 ft from n and 330 ft from e line. Alfred McMillan, Henderson, J. R. Fenton, 10, 1, D. Sanchez sur, 141 ft from w and 150 ft from s line; J. R. Fenton, 20, 1, D. Sanchez sur, 190 ft from w and 200 ft from s line. Mrs. Abigail Guernsey, Fee, 80, 1, G. F. Penn sur, 330 ft from n and e lines; 2, south of No. 1; 3, north of No. 4; 4, 330 ft from s and e lines. Lucey Pet. Co., Longview, Fisher, 65, 2, Castleberry sur, 330 ft from n and e lines. E. B. Hopkins, Longview, J. B. Watson, 25, 2, J. S. Caruthers sur, 208 ft from n and 330 ft from w line. J. O. Whittington, Longview, J. C. Bumpas, 31, 2, W. H. Castleberry sur, 330 ft from s and w lines. Deep Rock Oil Co., Tulsa, Okla., B. Jones, 61, 2, G. W. Hooper sur, 330 ft from s and w lines; 3, 320 ft from n and 390 ft from e line. Prairie O&G Co., Ranger, J. K. Wadley, 2, W. H. Castleberry sur, 330 ft from n and e lines; W. H. York, 86, 1, M. Dillard sur, 399 ft from nw and 330 ft from e line. Arkansas Fuel Oil Co., Shreveport, La., L. Y. Tuttle, 61, 1, Castleberry sur, 330 ft from s and w lines; 2, 330 ft from s and e lines. Mullendore, Berry & Berry, Longview, G. Davis, 10, 1, W. P. Chisum sur, center. Simms Oil Co., Dallas, G. B. Tenery, 10, 2, Wm. Robinson sur, 163 ft from n and 150 ft from e line; Flewellen, 200, 1, M. Mann sur, 224 ft from n and 250 ft from e line. Humble O&R Co., Houston, T. B. Harris, 175, 3, W. H. Castleberry sur, 360 ft s of center of n line; W. W. Holland, 245, 6, M. Mosley sur, 130 ft from e and 2100 ft from s line. Danciger O&R Co., Fort Worth, W. Christian, 48, 2, G. W. Hooper sur, 330 ft from s and w lines. Tidal Oil Co., Fort Worth, J. S. King, 80, 5, M. Van Winkle sur, 300 ft from s and 150 ft from w line; E. R. D. Bivins, 202, 3, W. P. Chisum sur, 330 ft from w and 1500 ft from n line; 4, 330 ft from e and 1650 ft from s line; A. F. Shepperd, 114, 3, T. Allen sur, 990 ft from w and 330 ft from s line; J. J. Castleberry, 202, 4, D. Sanchez sur, 330 ft from w and 1000 ft from n line; M. B. Hughey, 200, 2, J. Hillard sur, 330 ft from s and w lines; J. Benson, 34, 1, W. P. Chisum sur, 380 ft from n and 395 ft from w line. Navarro Oil Co., Houston, T. B. Harris, 80, 2, W. H. Castlebery sur, 330 ft from s and w lines. Roeser & Pendleton, Inc., Fort Worth, A. Christian, 31, 2, H. Hathaway sur, 292 ft from e and 155 ft from s line. Columbia O&G Co., Dallas, W. M. Harley, 45, 1A, W. M. Robinson sur, 276 ft from n and 341 ft from se line; J. B. Doby, 42, 1A, W. M. Castleberry sur, 468 ft from w and 750 ft from s line. Barnsdall Oil Co., Tulsa, Okla., L. Bingham, 99, 3, Castleberry sur, 330 ft from n and e lines; M. Adams, 102, 4, G. W. Hooper sur, 330 ft from n and e lines; 5, 1545 ft from w and 330 ft from s line. Amerada Pet. Corp., Fort Worth, J. M. Tuttle, 48, 1, W. H. Castleberry sur, 330 ft from n and 250 ft from e line; D. B. McPherson, 40, 2, W. H. Castleberry sur, 330 ft from n and w lines; L. R. Hearne, 108, 3, W. H. Castleberry sur, 330 ft from s and e lines. Yount-Lee Oil Co., Beaumont, J. Flemister, 60, 3, G. W. Hooper sur, 660 ft e of No. 2. Gulf Prod. Co., Houston, L. D. Crim, 70, 5, W. P. Chisum sur, 200 ft from w and 150 ft from s line; M. Charles, 71, 3, W. P. Chisum sur, 137 ft from n and 123 ft from w line. Vacuum Oil Co., Houston, V. L. Goolsby, 75, 2, G. R. Rains sur, 330 ft from s and e lines; H. B. Zeigler, 120, 3, P. McAnelly sur, 330 ft from s and w lines. Superior Oil Co., Dallas, L. C. Ingram, 162, 3, W. E. Pasteur sur, 330 ft from s and w lines. Atlantic Oil Prod. Co., Dallas, Jas. Wilson, 100, 2, W. C. Wakeland sur, 330 ft from n and e lines. Texas Co., Shreveport, La., M. T. Cole, 220, 4, E. L. Walker sur, 330 ft from n and e lines; W. Davis, 81, 5, Wm. McCurry sur, 163 ft from e and 310 ft from s line. Magnolia Pet. Co., Dallas, L. J. Everett, 171, 1, L. J. Rigsby sur, 734 ft from w and 263 ft from s line; B. Laird, 82, 5, W. P. Chisum sur, 291 ft from e and 200 ft from s line; C. Davis, 66, 4, W. H. Castleberry sur, 250 ft from w and 300 ft from s line; S. Carr, 100, 2, M. McCurry sur, 330 ft from n and w lines; 3, 330 ft from n and e lines. Shell Pet. Corp., Dallas, W. D. Lucy, 164, 2, E. H. Grisham sur, 330 ft from s and 1140 ft from e line. Sinclair O&G Co., Fort Worth, J. R. Williams, 46, 4, Jno. Ruddle sur, 105 ft from n and 330 ft from e line.

GUADALUPE COUNTY—Pray-Chamberlain, Des Moines, Ia., A. Krueger, 37, 1, H. Branch sur, 150 ft from s and w lines. A. C. Linne et al, Seguin, J. E. Linne, 49, 2, V. Gotari sur, 400 ft from n and e lines. R. S. Bolling, San Antonio, L. B. Linne, 263, 1B, V. Gotari sur, se corner.

GRAY COUNTY—Jewel O&G Co., Pampa, J. F. Meers, 40, 1, S 106, B 3, I&GN sur, 330 ft from s and w line nw¼ sw¼. Danciger O&R Co., Fort Worth, Wright, 160, 2, S 13, B 3, I&GN sur, 330 ft from s and w lines of ne¼.

JEFFERSON COUNTY — Elam & Pittman Oil Co., Port Arthur, M. Broussard, 206, 1, J. McGaffey sur, 900 ft from w and 400 ft from s line.

LIVE OAK COUNTY—V. G. Schimmel, San Antonio, C. L. Terrell, 2500, 1, D. O'Boyle sur, 4375 ft from s and 1500 ft from w line of survey.

MATAGORDA COUNTY — Powers Prod. Co., Houston, N. R. Myers, 18, 1, Wm. Hadden sur, 750 ft from e and 300 ft from n line Blk. 6.

PALO PINTO COUNTY—H. J. Wickens et al, Strawn, Watson, 1, Sec. N, Strawn sur, center of Blk. 5. J. S. Stephenson, Strawn, Woodlawn Add. 1, 1, B 2, H. Byrd sur, center of Blk. 4. King & Grounds, Strawn, Janes Add., 3, 1, Strawn Twste. 140 ft from n and 160 ft from w line Blk. 9.

PALMER COUNTY — Magnolia Pet. Co., Dallas, W. R. Wilson, 640, 1, S 73, B. H. Kelly sur, 2310 ft from s and 2626 ft from w line of sec.

RUSK COUNTY—L. McMurrey, Eldorado, Ark., A. D. Blackwell, 7, 1, M. J. Pru sur, 344 ft from w and 299 ft from s line. Johnston & Rogers, Tyler, C. W. Mullins, 30, 1, F. Cordova sur, 370 ft from n and 330 ft from e line. C. M. Johnson, Dallas, D. Kelly, 20, 1, B 24, J. B. Cadena sur, 577 ft from n and 414 ft from w line. Haynes Drlg. Co., Shreveport, La., C. Lee, 13, 4, M. J. Pru sur, 330 ft from n and e lines. S. O. Thompson, Tyler, C. A. Price, 1535, 1, H. Millikin sur, sw corner. Deep Rock Oil Co., Tulsa, Okla., T. J. Stovall, 193, 2, J. B. Cadena sur, north central part of lease; 3, east central part of lease. G. H. Vaughn, Dallas, E. W. Reagan, 28, 1, F. Cordova sur, 200 ft from n and w lines; W. O. Alford, 90, 1, 150 ft from s and e lines; 2, ne corner. E. A. Breeben, Tulsa, Okla., I. R. Thrash, 12, 1, W. H. Bears sur, 330 ft from w and 300 ft from s line. J. H. Meek, Jr., Houston, H. L. Griffin, 8, 1, M. B. Cadena sur, 450 ft from n and 180 ft from e line. T. W. Murray, Overton, L. De Guerin, 2, 1, W. G. Tutt sur, 163 ft from n and 115 ft from e line. J. D. Florey, Overton, Fee, 1, 1, J. Linsey sur, 330 ft from n and 32 ft from e line. S. B. Riatman, Tyler, W. P. Moore, 21, 1, H. Wiggins sur, 240 ft from n and 330 ft from e line. Aston Oil Co., Oklahoma City, J. R. Alford, 11, 1, T. J. Moore sur, 330 ft from n and 280 ft from e line. T. C. Hadley, Tyler, W. B. Perry, 68, 1, L. N. Sparks sur, 330 ft from n and w lines. J. D. Simmons, Tyler, Fee, 2, 1, F. Cordova sur, center. Imperator Oil Co., Dallas, J. L. Maxwell, 4, 1, F. Cordova sur, center. Tip De-Arman, Tyler, M. B. King, 35, 2, M. McCabe sur, 330 ft from n and e lines. Wheelock & Collins, Corsicana, D. Wells, 220, 4, H. Hobson

For Tabulation and Comparison See Market Section

sur, 330 ft from n and e lines. Texas Co., Shreveport, La., L. J. Pinkston, 80, 3, J. B. Cadena sur, 205 ft from s and 330 ft from w line; C. Hannah, 20, 2, J. B. Cadena sur, 190 ft from n and 218 ft from w line; First State Bk., 160, 5, J. C. Smith sur, 330 ft from n and e lines. Tidal Oil Co., Fort Worth, W. P. Moore, 135, 5, H. Wiggins sur, 240 ft from n and 330 ft from e line; 6, 440 ft from n and 330 ft from w line. Stanolind O&G Co., Longview, C. O. Christian, 50, 2, W. R. Cooke sur, 330 ft from s and e lines. Humble O&R Co., Houston, A. Wilson, 58, 2, G. Berry sur, 340 ft from e and 285 ft from s line; L. Barton, 64, 3, A. Melton sur, 570 ft n of No. 2; 2, 340 ft from w and 741 ft from s line; M. D. Caldwell, 73, 4, T. J. Martin sur, 460 ft s of No. 1. Mid-Kansas O&G Co., Shreveport, La., M. L. Thompson, 95, 3, I. Moore sur, 330 ft from s and e lines (corrected lcn); M. C. DeGuerin, 158, 2, J. B. Cadena sur, 330 ft from s and w lines. H. L. Hunt, Tyler, D. Wooley, 53, 1, E. Collard sur, 236 ft from n and 181 ft from w line (corrected lcn); N. Turner, 24, 2, Geo. Berry sur, 285 ft from n and 340 ft from e line. Woodley Pet. Co., Shreveport, La., M. M. McMillan, 40, 2, T. J. Martin sur, 235 ft from n and 225 ft from e line. Falcon Co., Fort Worth, T. O. Mason, 148, 8, J. B. Cadena sur, 660 ft w of No. 9; 9, 330 ft from n and 400 ft from e line. Golding Murchison Oil Co., Dallas, W. D. Kinney, 336, 2, Cadena sur, 346 ft from n and 534 ft from w line; 3, 360 ft from w and 330 ft from s line; 4, 539 ft from w and 330 ft from s line; 5, 330 ft from w and 420 ft from n line; J. E. Arnold, 35, 1, M. J. Pru sur, 330 ft from n and 333 ft from e line; 2, 333 ft from e and 330 ft from s line; R. W. Fair, 100, 2, M. J. Pru sur, 330 ft from n and 208 ft from w line. Arkansas Fuel Oil Co., Shreveport, La., E. M. Bealle, 29, 3, F. Cordova sur, 228 ft from n and 330 ft from w line. East Texas Refg. Co., Dallas, O. H. Grissom, 84, 3, Cordova sur, 330 ft from n and 1080 ft from w line. Lion O&R Co., Eldorado, Ark., H. Brooks, 174, 4B, M. J. Pru sur, 150 ft from e and 205 ft from s line; H. Brooks, 174, A4, M. J. Pru sur, 620 ft from n and 150 ft from w line. Sun Oil Co., Dallas, H. Shuler, B, 72, 2, J. B. Cadena sur, 330 ft from n and 572 ft from w line; J. R. Beall, 180, 8, W. P. Chisum sur, 4132 ft from n and 421 ft from w line. Magnolia Pet. Co., Dallas, D. Kelly, 55, 3, J. B. Cadena sur, 990 ft from w and 330 ft from s line. Devonian Oil Co., Tulsa, Okla., W. O. Alford, 99, 3, H. B. Dance sur, 330 ft from s and e lines; R. A. Motley, 442, 10, Wm. Killen sur, 1612 ft from e and 330 ft from s line; J. B. Milstead, 83, 6, R. H. Penney sur, 330 ft from s and w lines.

SAN PATRICIO COUNTY — Atlantic Oil Prod. Co., Dallas, Welder, 500, 1C, F. R. Portillo sur, 500 ft from n and w lines of Blk. 3.

STEPHENS COUNTY — Hanlon Gasoline Co., Breckenridge, C. E. Sikes, 85, 1, S 13, B 6, T&P sur, 1132 ft from n and 658 ft from w line.

SMITH COUNTY—Sun Oil Co., Dallas, O. W. Knight, 264, 5, I. Moore sur, 330 ft from n and 335 ft from w line; I. D. Henson, 216, 5, J. Vargas sur, 330 ft w of center of e line. Magnolia Pet. Co., Dallas, J. Wright, 12, 1m, J. Vargas sur, 330 ft from n and e lines; I. Wright, 81, 11, J. Vargas sur, 330 ft from s and w lines.

UPSHUR COUNTY—C. H. Brown, Longview, W. M. Landers, 3, 5, Hooper sur, center. Sabinas Oil Corp., Longview, T. M. Collins, 126, C4, Mann & Hooper sur, 67 ft from n and 235 ft from w line; J. W. Falvey, 58, 1B, M. Mann sur, 330 ft from n and 418 ft from w line. Cranfill & Reynolds, Houston, M. L. Rash, 106, 1, E. N. Eubank sur, 1610 ft from w and 330 ft from s line. Magnolia Pet. Co., Dallas, J. W. Free, 169, 9, G. W. Hooper sur, 330 ft from w and 238 ft from s line. California Pet. Co., Shreveport, La., J. N. Taylor, 37, 2, M. Mann sur, 510 ft s of No. 1; I. Walker, 120, 5, S. Harrell sur, 330 ft n of center of s line. Sun Oil Co., Dallas, T. C. Ramey, 90, 1, Wm. King sur, 300 ft from s and w lines.

UPTON COUNTY — Geo. E. Farley, McCamey, J. F. Lane, 40, 2, S 36, B 1, MK&T sur, 330 ft from n and e line nw¼ of se¼.

VAN ZANDT COUNTY—V. T. Davis, 139, T1, N.C.S.L. sur, 480 ft from e and 400 ft from s line; drilled by Pure Oil Co., Fort Worth.

WEBB COUNTY—O. W. Killam, Laredo, A. M. Bruni, 500, 20, S 9, M. Srispe sur, 175 ft from nw and 1420 ft from ne line; A. M. Bruni, 2B4, Borrego sur, 150 ft from w and 475 ft from s line; 3B4, 9195 ft from e and 6890 ft from s line; A. M. Bruni, 500, 21, S 8, M. Srispe sur, 170 ft from nw and 1020 ft from sw line. Fansler & Johnson, Laredo, Laurel, 40, 1, Sec. 271, Blk. 10, 425 ft from n and 600 ft from e line. Carolina Texas O&G Co., Inc., Laredo, R. O. Barnsley, 40, 10, S 336, Blk. 30, 150 ft from e and 200 ft from s line.

WINKLER COUNTY — S. W. Richardson, Fort Worth, S. Smith, 480, 1, S 92, B A, GMMBA sur, 330 ft from s and w lines.

YOUNG COUNTY — Lyon & Hamilton, Wichita Falls, G. C. Rochell, 40, 1, W. R. Peveler sur, 450 ft from n and 150 ft from e line. Wooten & Reed, Graham, A. E. Robinson, 30, 1B, 1466 TE&L sur, 450 ft from n and 150 ft from e line. Belknap Oil Co., Wichita Falls, Fee, 53, 9, 22 TE&L sur, 2027 ft from w and 150 ft from n line; 10, 1916 ft from w and 150 ft from s line. King Royalty Co., Wichita Falls, J. F. Larimore, 160, 27, 2246 TE&L sur, 1650 ft from e and 766 ft from n line; 28, 784 ft from s and 1950 ft from e line. Kleiner & Riggs, Cisco, J. F. Larimore, 91, 2, 22 TE&L sur, 150 ft from w and 1050 ft from s line. Seitz-Comegys & Seitz, Wichita Falls, N. Finch, A, 20, 4, 31 TE&L sur, 466 ft from n and 150 ft from w line. W. F. Brazelton et al, Graham, C. J. Taack, 40, 7, 263 TE&L sur, 300 ft s of No. 6. Rhoden-Detsauer Corp., Wichita Falls, J. D. Lowe, 80, 1, 2244 TE&L sur, 190 ft from w and 150 ft from s line.

ZAPATA COUNTY—O. W. Killam, Laredo, E. Cuellar, 418, 45B, Sec. 277, 370 ft from n and e lines; R. Cuellar, 886, 31A, J. M. Pereda sur, 350 ft nw of No. 29A; 30A, 1720 ft from n and 570 ft from e line; 28A, 1710 ft from n and 345 ft from e line; 29A, 350 ft nw of No. 19. W. C. and W. W. Ricney, Bruni, J. M. G. Martinez, 160, 25B, B 24, C. Redondo sur, 1300 ft from e and 1090 ft from s line; 26, 1460 ft from e and 855 ft from s line.

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CAMERON PARISH — Calcasieu Oil Co., Sulphur, La., Watkins 28, 13-12s-10w, 1070 ft n and 1742 ft w of se cor of sec.

SABINE PARISH—Coates Pet. Co., Shreveport, Bowman-Hicks Lbr. Co. 1, 18-7n-13w, 330 ft n and 330 ft e of sw cor of sec W. N. Coates, Shreveport, Hale 2, 1-7n-13w, 330 ft s and 330 ft e of nw cor sw¼ of ne¼. Davidson & Grigsby, Shreveport, S. S. Martinez 1, 2-7n-13w, 330 ft s and 330 ft w of ne cor nw¼ of se¼. Dengail Oil & Gas Co., Oklahoma City, Okla., Multon 2, 1-7n-13w, 33 ft n and w of se cor nw¼ of ne¼. Dengail Oil & Gas Co., Oklahoma City, Multon D-2, 1-7n-13w, 330 ft n and 330 ft e of sw cor nw¼ of ne¼. The Gehrig Co., Shreveport, Skinner 1, 16-8n-11w, 616 ft s and 565 ft e of nw cor of Sec. M. J. Kissick, Many, La., Brown Lbr. Co. 1, 1-7n-11w, 250 ft n and 95 ft w of se cor nw¼ of ne¼. Ohio Oil Co., Shreveport, Bowman Hicks 12, 2-7n-12w, 150 ft n and 150 ft w of se cor ne¼ of ne¼.

TERREBONNE PARISH—The Texas Co., Shreveport, L. L. M.-Lake Barre 1, 30-21s-20e, 2895 ft s and 680 ft e of nw cor of sec.

KANSAS

COWLEY COUNTY — Roth Faurot and Wakefield Townlot 1 (owd), Lot 1, block 41, Musgrove Addition, Section 22-32-4e.

ELLIS COUNTY — Davis, Hazlett et al, Weiland 1 (owd), ne c 1-13-16w.

ELLSWORTH COUNTY—Barnsdall Oil Co. et al, Schacy 1, se nw sw 25-16-10w.

GREENWOOD COUNTY — Syndicate Oil Co., Shook 8, se c nw 6-24-12e.

RENO COUNTY—E. L. Study et al, Harvey 1 (owd), ne c sw 1-23-4w.

McPHERSON COUNTY—Darby Pet. Corp., Fletcher 3, se sw sw 16-19-1w. Twin Drlg. Co. et al, Gratton 1 (owd), sw c se 19-19-1w. Olsen Drlg. Co. et al, Johnson 3, ne nw se 36-19-2w.

RUSSELL COUNTY — The Texas Co., Jacobs 1 (owd), sw c 31-12-15w.

OKLAHOMA

CREEK COUNTY — R. E. Freeman et al, Young 1, sw c ne nw 15-19-7e. C. O. Buckles, Flinchum 1, ne c se sw 11-19-9e. Holmes Drlg. Co., Burnett 3, nw c se nw 7-19-10e. Bryan Pet. Co., Ta-co-nay 3, ne c nw sw 3-17-10e.

MARSHALL COUNTY—Chas. Everett et al, Ayers 1, sw ne ne 14-7s-6e.

OKLAHOMA COUNTY — Phillips Pet., Gallaman 1, ne c nw ne 3-11-3w. Phillips Pet. and Sultan Pet. Co., Classen 1, cwl se se nw 15-11-3w. Phillips Pet. Co., Burnett 1, ne c sw nw se 15-11-3w. Slick Estate, Classen-Edwards 7, sw c se sw sw 3-11-3w.

PAWNEE COUNTY—M. P. Tippin et al, Tippin 1, ne sw sw 24-22-6e. Ed Reese, Rules 1, cwl nw se 9-20-7e. Peter Adamson Jr., Ice 1, sw c ne 4-20-8e.

PITTSBURG COUNTY—W. B. Haley et al, 1, nw c sw 9-5-14e.

POTTAWATOMIE COUNTY — Mid-Continent Pet. Corp., Farmer 1, sw c nw 2-6-4e.

WAGONER COUNTY — Sheridan Oil Co., Snake 1, se c nw 26-18-15e.

ARKANSAS

OUACHITA COUNTY—W. H. Copenhaver, Berg 1, 150 ft n and 150 ft w se cor, sw¼ ne¼ 13-15-17.

Wildcat Reports from All Sections

▼ ▼ ▼

CENTRAL EAST TEXAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CASS COUNTY—		
Geo. B. McCamey et al, R. E. Hall 1	*	4195
WOOD COUNTY—		
Wood County Dev. Co. (Tom Lott), M. M. Rick 1	*	2008

EAST TEXAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
SHELBY COUNTY—		
I. M. Bradley et al, J. J. Asberry 1, G. W. Mitchell sur	*	3280

HARRISON COUNTY — Ryan Cons. Pet. Corp.'s J. M. Furrh 1, T. J. Copelain sur, rig. J. M. Gholson's Bivins 1, T. D. Peterson sur, sd 3085 ft. Lloyd Oil Corp.'s Timmons 1, Jno. Findley sur, 10-inch 240 ft, sd for fuel 3432 ft bro lime.

MARION COUNTY—Rondeau & Hindman's Lindsay 1, Alex Albright sur, sd 2450 ft. J. W. Hamilton's Wood 1, Alex Albright sur, sd 2380 ft. Claunch et al's Laun 1, Henry Fulgram sur, sd 300 ft. Sheldon et al's Brown 1, E. B. Fowler sur, sd 3750 ft.

PANOLA COUNTY—Dillon & Bradham's Baldwin 1, Hampton West sur, sd 1555 ft. United Prod. Corp.'s Steele 17, B. C. Jordan sur, lcn (Trinity test). Werner 11, D. B. Lewis sur, 15½ cas 383 ft, 9-inch 3525 ft, dr 4223 ft. Daisy O&G Co.'s Rucks Hrs. 1, Jno. Palmer sur, sd for water, 3264 ft shale. Moses & Wallace's C. L. Daniels 1, Isabel Hanks sur, sd 650 ft. Hoffer et al's Cameron 1, W. A. Lagrone sur, dk. Davidson et al's Latham 1, Wm. Rich sur, 10-inch 260 ft, dr 780 ft (heavier rig recently installed). Nelson et al's Williams 1, Jas. Hanks sur, 12½ cas 400 ft, sd 2250 ft lime. Stamps et al's Chadwick 1, Wm. Scantleberry sur, rig.

SHELBY COUNTY—E. L. Chapman's Holt 2, Matthew Moore sur, move in heavier rig, td 3127 ft. Pickering Lbr. Co. 1, C. F. Henry sur, blew out est 25 mil ft gas, killed and set 365 ft 7-inch cas, cemtd 5 3/16 cas 3102 ft, td 3864 ft (corrected depth). McRobie et al's Windham 1, Wm. Leach sur, 296-ac tract, 12½ cas 276 ft, top chalk 1930 ft, 8¼ cas 1750 ft, tested dry small show gas in chalk 2282 ft, base chalk 2572 ft, claim 6-ft sand core showing oil, td 2648 ft. Maulding et al's Frost Lbr. Ind. 1, A. B. Fountain sur, top PG 2900 ft, dr 3246 ft chalk. H. H. Gracey's J. A. Morrison 1, Wm. English sur, sd 2600 ft. I. M. Bradley et al's J. J. Asberry 1, G. W. Mitchell sur, dry abn, td 3280 ft sandy lime. C. H. Tautenhahn's J. C. Bogard 1, Thos. Baker sur, partly rigged up, sd 20 ft. Ridgeway et al's Polley 1, Domingo Gonzales sur, arr set surf. cas 405 ft. K. H. Francis' Jno. Mims 1, Mary Smith sur, 13⅜ cas 40 ft, 10-inch 393 ft, top Midway 847 ft, sdtr ds at 2000 ft, junk recov at 2200 ft, dr 2630 ft (est.) in new hole, old td 2805 ft. United North & South Prod. Co.'s Windham 1, A. H. English sur, 171.5 ac, tract, 12½ cas 376 ft, top chalk 2004 ft, r to bot 2008 ft. J. E. Steck's Pickering Lbr. Co. 1, Jonas Harrison sur, sd 400 ft.

SOUTH TEXAS

ATASCOSA COUNTY—Glen Mathis' Mrs. G. M. Martin 2, Navarro sur, 3 mi s Amphion, 100 ft sw No. 1, sd 2980 ft.

BASTROP COUNTY—W. A. Allen's Birmingham 1, King and Millett sur, dr 1220 ft last rept. Mid-states O. & G. Co.'s Wickmann 1, Castleberry sur, to deepen. Texas Dev. Co.'s C. H. Ray 1, Thos. Christian sur, 1, 102 mi ne Elgin, sd 100 ft.

BEE COUNTY—C. R. & M.'s Geo. A. Ray 1, Williamson sur, Damac pool, dk. Houston Oil Co.'s J. F. Portis 2, A. Smalley sur, sw Pettus pool, dk. J. C. Hughes et al's P. H. Martin 1, John Lyford sur, just s Holzmark pool, prep to spud in, wait on water. Humble Oil and Ref. Co.'s Laura Thompson 1, Garrett Roche sur, dr 2360 ft. Lefevere & Buchanan's Geo. A. Ray 1, elev 342 ft, Jno. A. Williamson sur, 2800 ft w Damac producer, s Pettus pool, sand cored 3887-3908 ft, set csg 3886 ft, plug back 10 ft, w.o.c. J. S. Mauldin's Mauldin 1, G. A. Kerr sur, just s Pettus townsite, sd 3930 ft. T. B. Slick Estate's Geo. A. Ray 2, G. A. Kerr sur, sw Pettus in Damac pool, making lcn. United Prod. Co.'s Ry. 3839 T. Hanson sur, just ne field, dr 6683 ft in shale. H. H. Weinert's Geo. A. Ray 1, Jno. A. Williamson sur, sw Pettus pool, w of Damac well, dk; Geo. A. Ray 2, lcn.

BEXAR COUNTY—J. E. Anderson's Suburban Irrigated Farms 1, C. Logan sur, near Kirk, 20 mi sw San Antonio on Chicon Lake fault, csg 1117 ft, top of Onacacho—show gas in sand topped 1151 ft. Gatlin Oil Co.'s Beck 9, A. Montez sur, lcn. Ewell Neill's J. M. Watson 1, Martinez sur, 10 mi s San Antonio, sd 1100 ft. W. S. Rogers et al's Dunlop 1, Juan Montez sur, sd 612 ft. Schneider, Rees et al's Claussen 1, 12 mi no San Antonio, SJ&A sur No. 17, sd 863 ft. Tri-State Oil Co.'s Carruth 1, F. Bolen sur, sd 770 ft. Whipple et al's Gemblers 1, nw Dobrowolski district, lcn to be made.

BLANCO COUNTY—Hardy Sitton's Standeford 1, sur 155, 3, 102 nw Blanco City, no rept; McMillen 1, Benjamin Williams sur No. 125, 2 mi Blanco City, sd 686 ft. Forest Oil Co.'s (Rosenfield et al) Hohenberger, sur No. 94, sd 712 ft. Thomas Hicks et al's Specht & Wiedner 1, Thos. M. Fowler sur No. 27, 2 mi s Twin Sisters, dr 1140 ft.

CALDWELL COUNTY—Joe Bruner's Malone 1, A. Floyd sur, 2 lcns Salt Flat, oil coming through mud, prep to complete, csg set 2396 ft, td 2572 ft, mi se Lockhart, prep to dr. Ralph Ogden's Mrs. Sue Nealsen 1, John B. Gray sur, Larrimore pool, 3 mi n Lockhart, top Edwards 1297, td abt 1307 ft, complete 15 bbls oil, lots sulphur water. John Storey's McMahon 1, Mills-Chapman field, Pinchback sur, lcn.

COMAL COUNTY—Caldwell & Lanier's T. J. Byler 1, 10 mi s Blanco City, HE&WT sur No. S-894, sd 754 ft.

DUVAL COUNTY—Cole Pet. Co.'s Benavides 71, blk 8, sur 19, e of Cole field, dr 200 ft, 10-inch at 40 ft. Frank Garvis' Shallert 1, Palangana Salt Dome, sur 255, sand 1446-50 ft, set csg, 1448 ft, testing. Humble O&R Co.'s White 2, sur 58, S&O pool, ru. Magnolia Pet. Co.'s Wilson 5, sec 134, S&O pool, sand 2390-2416 ft, 6⅝ inch csg, set 2390 ft, complete 400 bbls; Wilson 6, sur 136, ru. SR&C & Vacuum Oil Co.'s Duval Land and Cattle Co.'s 5, sur 293, SRC pool, dr 545 ft. Thomas & Tarver's Bishop Land and Cattle Co.'s Welder Wood 1, 16 mi from S&O pool, sec 269, Welder-Wood ranch, td 1501 ft, sd, sand 1495-98 ft, show little oil. The Texas Co.'s Bishop Duval Land Co. 3, sur 135, S&O pool, dr 1000 ft.

FRIO COUNTY—Arthur H. Wray's Roche 1, sec 123, A. Hutzler sur, near Big Foot, 1500 sw Burns 1, td 2404 ft, d.s.t., dry, to deepen to Edwards.

GOLIAD COUNTY — Plymouth Oil Co.'s Parks 1, 2900 ft se Givson Parks 1, ru. Stanolind O&G & John F. Camp's Pettus 2, abt 2000 ft nw Pettus 1, to abn 4520 ft, sand 4304-38 ft tested dry.

GUADALUPE COUNTY—Harry Bruner's Jim Sherrill 2, Geo. Allen League, near Staples, sd 190 ft for rotary. John F. Camp is Dan Denman 1, Wm. Arrington sur, 2500 ft s Camp well, top chalk 2256 ft, hit crevice 2400-hole, set 6⅝ inch csg, completing. Humble Oil and Refining Co.'s Dan Denman 1, Wm. Arrington sur, 900 ft s Camp producer, top chalk 2214 ft, set 6⅝ inch csg top crevice at 2358 ft, completing. W. M. Eiser et al's Wells 1, ne quarter Jose de la Baume sur, ru. Barnhill & Breavers Hoffman 1, 8 mi e Seguin, near Gonzales road, sp in. C. McGarity et al's August Wesch 1, H. M. Thompson sur No. 89, 2 mi n Marion, sd 1200 ft. Pray & Campbell's Krueger 1, near Guadalupe river, dk. Schleter, Atherton & Armstrong's Ogletree 1, Robt. Smith sur, 1 mi n old Luling field, sd 1745 ft.

HAYS COUNTY—J. C. Jones et al's Byler 1, John Ingram sur, 15 mi nw San Marcos, sd 925 ft.

JIM HOGG COUNTY—O. W. Killam's R. Lopez 2, Blk 4, sur 255, Henne, Winch & Farriss pool, dk.

JIM WELLS COUNTY—Larcro G. & Pet. Co.'s Wade 2, 800 ft s No. 1, Larcro gas field, set 6⅝ inch csg 2921 ft, w.o.c., td 2929 ft. Stanolind O&G Co.'s N. A. Hoffman 1, La Trinidad sur, 4½ mi sw Ben Bolt, dr 4888 ft.

KARNES COUNTY—V. F. Neuhaus's L. L. Russell 1, C. Martinez sur, just n Kennedy-Runge Highway, sd 1400 ft. Jones et al's (J. Morrisey) Cochran 1, D. B. McConnel sur, w Kennedy, to re-dr 1012 ft. United North & South Dev. Co.'s Morrell 1, Carlos Martinez, 7 mi sw Kenedy, dr 1403 ft in shale.

KENDALL COUNTY—Borgett et al's W. Hagg 1, w Avery sur, sd 1250 ft. F. S. Dibble's Ellebracht 1, TW&NG sur, 12 mi n Sisterdale, sd 50 ft. Dixon Oil Co.'s Behr 1, Jessie Wilson sur, 2 mi s Sisterdale, dr 2713 ft at last rept. R. M. Perkins' (W. H. Sartain) Lawhorn 1, 30 ft sw original test, D. L. Richardson sur, sw Kendalia, no rept. Hardy Sitton's W. B. Garvin 1, D. L. Richardson sur, 1 mi ne Kendalia, sd 1480 ft.

KERR COUNTY—Evans and Gant's Seiker and Mears 1, CCSD&RGNR Ry. sur, sec 1605, 2 mi ne discovery, sd 4031 ft sandy shale; Jeff Love 1, J. Martinez sur No. 1594, sd 4060 ft brown lime. Evans and Sprinkle's Jeff Love 2, sec 1592, ½ se discovery set csg 3260 ft, now sd. Chester A. Martin's J. E. Young 1, A. E. Bruce sur, ne discovery, 1310, move on 12½ inch cas.

LA SALLE COUNTY—Buckley Ranch O&G Co.'s Buckley et al 1, sur 37, Buckley-Walling ranch, td 3503 ft, set 6⅝ inch csg 3117 ft for protection. Salt Lake City Oil Co.'s J. F. Mayes 1, sec 19, blk 20, I&GN sur, dr 1100 ft.

LIVE OAK COUNTY—Henderson Coquat et al's H. Hewitt 1, Thomas Adams sur, sec 4, sd 445 ft. Shimmel & Batts' (Texas Pet. Co.) Terrell 1, s Fort City, ru.

MAVERICK COUNTY — I. N. Boicourt's Bandera School Land 2, sd 2284 ft. Texas Gas Utilities Co.'s Chittim 8, sec 129, blk 7, I&GN sur, Chittim field, sd 4810 ft. Jacob, Buzzini & Pickett's Jacob 1, 4 mi n Callahan, dk.

McMULLEN COUNTY—A. E. Adams' Martin 1, L. E. Melon sur, 15 mi sw Tilden, td 750 ft, no rept. Brodie, Shearer and Emerich's Shiner 1, Henry Brewer sur, 12 mi se Tilden, sd 2006 ft. Jacob, Buzzini & Pickett's Jacob 1, Southern gas district, near Live Oak line, ru.

MEDINA COUNTY — Frank A. Brown's Jacob Fohn 1, J. F. Tony sur, 8 mi s Hondo, fsh 922 ft. National Oil Co.'s 1, lcn being made.

NUECES COUNTY—Gulf Coast Oil Co.'s Sagarin 1, Sec. 1V9, Kinney sur, Saxet field, reaming 4272 ft; Elder 1, nw Harrel 1, Saxet

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn — abandoned; bbls—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd — shut down; sdtr — sidetracking; sp — spudding; sr — straight reaming; std — standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

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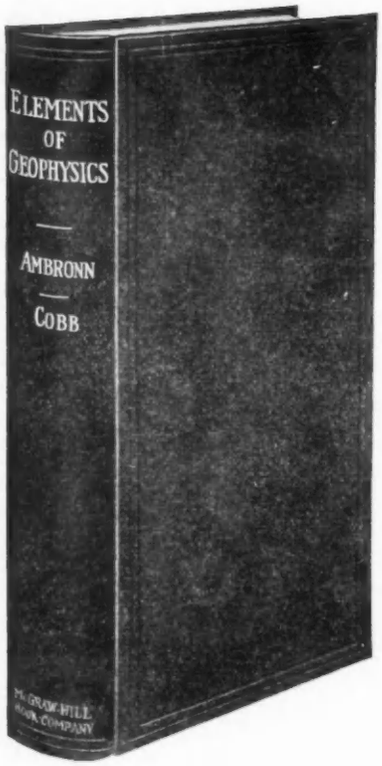

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field, sand 4892-96 ft, show oil, set csg. Neal-Milton & Kepley Prod. Co.'s Roark 1, 2000 ft nw Saxet Dunn 8, Saxet Field, sand 4825-32 ft, show 55 fourbles pure oil on d.s.t., made sw when dr in, now work on well. Saxet Oil Co.'s Weil, dk. Stanolind O&G Co.'s (Southern Crude Oil Purchasing Co.) Saxet field, Chas. E. Stratton 1, sec 12, Stratton sub. P. Anchow sur, 6 mi s Agua Dulce, sd for orders, td 4765 ft. L. L. Smith's Alexander 1, Saxet field, dr 4650 ft, shale.

REFUGIO COUNTY — Blanco Creek Oil Corp.'s Dammann 1, blk 16, Bonnie View Ranch sub, 8 mi s and e Refugio field, sd 4685 ft. Humble O&R Co.'s M. V. O'Conner 1, John Keathing sur, near Victoria line, td 3815 ft, complete cleaning hole, re-dr. Larcro Gas & Pet. Co.'s Strauch 4, Blk 21 Refugio, lcn. Moody-Seagraves Prod. Co.'s Strauch 1, Refugio Blk 9, to work over; St. John 2-A, Refugio sur, ru. United Prod. Corp.'s O'Brien 6, Refugio, sd 6450 ft; Hews and L. Brown sur, Refugio, make d.s.t. 5193 ft.

SAN PATRICIO COUNTY—Atlantic Oil Producing Company's Welder 1, on Welder ranch, about 10,000 ft sw Aransas gasser, lcn. Welder Oil Corp.'s Welder 3, 900 ft ne No. 2, Welder Gas field, sand 3651-61 ft, d.s.t show 1100 lbs. pressure in 12 min., now sd. Saxet Oil Co.'s Rachal 18, White Point, ru.

STARR COUNTY—Los Olmos O&G Co.'s Seabury 1, Porcion 75, testing 6-inch casing set 366 ft. San Marcos Dev. Co.'s Lorn Smith Ivy, Kelsey Bass, 1 mi w Olmos pool, sur 8, sub of Porcion 75-76-77, dr below 400 ft.

VICTORIA COUNTY—C. R. & M. Co. & C. B. Bunte, Inc.'s, C. R. Keenan 1, center 2500-acre ranch, dr 1100 ft. Houston Oil Co.'s Konrad 1, T&NO sur, on Beck Salt Dome, n Victoria, wash to bottom, td 5176 ft. The Texas Company's McFadden 3, John M. Rine sur, nw No. 2, fsh 4425 ft.

WEBB COUNTY — Carolina Texas O&G Co.'s Barnsley 10, Blk 14, sur 268, Carolina-Texas field, dk. Cole Pet. Co.'s (Carson) Benavides 2 (4), 12 mi e Laredo, sur 1601, sd 4050 ft. Fansler, Johnson & Peacock's Laurel 1, blk 10, sur 271, Carolina Texas pool, lcn. O. W. Killam's Bruni 3, El Ranchito tract, J. V. Borrego grant, dr 1635 ft, gummy shale; Bruni 22, sur 9, Arispe grant, Cole field, dk. Winfield Killam's S. H. Johnson 1, sec 1618 Reiser district, abn 2045 ft. Geo. S. Marshall's Benavides 1, Carolina-Texas district, sur 683, lcn. Power & Dettenheim's Cowan & Goss 1, sur 1606, dr 100 ft, last rept. E. A. Sterling & Co., Inc.'s de la Garza 1, blk 30, sur 336, Carolina-Texas field, sand 2195-2208 ft, set 6⅝ inch cas 2195 ft, completed 14,000,000 cu ft gas, 600 lbs. rock pressure.

WILLIAMSON COUNTY—H. Fritz et al's fee 2, HT&B Ry. sur, 3 mi sw Taylor, 35 ft n No. 1, dr 1115 ft. Hays and Gee's E. G. Johnson 1, B. C. Low sur, s Georgetown, re-dr 1336 ft. McLean's et al's Miller 1, Manlove sur, temp sd 1670 ft. R. S. Wilson's J. S. Speckely 1, J. Jordan sur, 1 mi n Coupland, sd 885 ft.

WILSON COUNTY — August M. Blume's Nickelson 1, G. Diaz sur, 2½ mi s Floresville, to re-dr, td 1350 ft.

ZAPATA COUNTY—Bov & Richey's Martinez 25, Charco Redondo Grant, lcn; Martinez 26, Blk 24, lcn; Martinez 27, Blk 14, lcn. Ballard & Mercer's Flores 1, Blk 27, Marks sub of Porcion 37, ru. E. K. Bateman's M. Garza Estate 1, blk 29, sub of Zorro ranch, Los Comitas Grant, s end of Muckelroy pool, ru. F. H. Etheridge's Jose Bustamante 1, share 35, Comitas Grant, Jennings pool, test 14 trebbles oil 8½ min, cap 1472-75 ft, sand 1475-77 ft, set 6⅝ cas 1473 ft, completed 300 bbls. Grayburg Oil Co.'s C. F. Martinez 1, sec 4, Jennings pool, ru. O. W. Killam's 30-A Blanco Grant Cuellar extension, 6⅝ inch csg set 1517 ft, sand 1517-22 ft, abn 1545 ft; Cuellar 31-A, Cerrito Blanco Grant, Cuellar extension, dr 1365 ft rock; Cuellar 45-B, sur 277, Jennings pool, dr 680 ft. Newton, Owen & Evan's Rafael Garza 1, Blk 4, share 1, sur 161, dr 1400 ft. Pray and Chamberlain Prod. Co., Inc.'s, (Whicker) Garza 1-C, sub of Zorro ranch in Los Comitas Grant, s extension Muckleroy pool, dk. M. D. Slator's Slator 1, Blk 25, Borrego Grant, sd 917-23 sand, 924-27, bailed dry, csg gave way, now dr 1000 ft. Trevino Oil Co.'s Trevino 12-A, Blk 5, sur 412, sand 1209-25 ft, set 6⅝ inch csg 1206 ft, complete 25 bbls. C. J. Webster O&G Co.'s P. B. Trevino 1, lcn.

OKLAHOMA

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros., Forbes 1, ne c se nw nw, sd 1420 ft.

KAY COUNTY—T 27n, R 2e, Sec. 9, Mummer et al, Sornick 1, nw c se, hfw 2070-2170 ft, sd 3693 ft.

GRANT COUNTL—T 25n, R 4w, Sec. 22, Cowden, Collmer 2, ne c se ne sw, sd 5640 ft, tools in hole.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, J. V. Bailey et al, Acre 1, c sw ne, sd 5502 ft.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer, White 1, se c nw, sd 5850 ft, fsg job.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma Pet. Co., Phillips 1, c nw sw, ts 5120 ft, to abandon.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Healey et al, Quier 1, se c sw, sd 3970 ft.

PAWNEE COUNTY—T 23n, R 5e, Sec. 15, Cochran et al, McFadden 1, ne c sw, rig. T 20n, R 5e, Sec. 6, W. A. Rookstool, Berry 1, nw c ne sw, show gas 1942-51 ft, sd.

LINCOLN COUNTY—T 17n, R 5e, Sec. 36, W. M. Mote et al, School Land 1, nw c, dr 530. T 14n, R 3e, Sec. 2, Hilton Phillips et al, Phillips 1, sw c nw, dr 1850 ft.

OKLAHOMA COUNTY—T 12n, R 4w, Sec. 3, Shepperd et al, Shepperd 1, se nw sw, sd 3690 ft.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al, McDuff 1, sw nw se, dr 5793 ft. T 7n, R 14e, Sec. 34, Tape Oil Co., Fulton 1, se c, sd 1200 ft.

LATIMER COUNTY—T 6n, R 19e, Sec. 16, P. English et al, Weaver 1, c nw se, sd 1542 ft.

ATOKA COUNTY—T 1n, R 13e, Sec. 31, T. J. Campbell et al, Baird 1, nw ne sw, machine. T 1n, R 15e, Sec. 6, Edgerton et al, Rolland 2, sw ne sw, machine.

OKLAHOMA COUNTY—T 12n, R 4w, Sec. 17, C. F. Cuniff, Trustee, St. Joseph 1, sw c ne sw se, sd 6700 ft.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 19, Bunte et al, Bruner 1, se c nw, rig.

ROGER MILLS COUNTY—T 12n, R 24w, Sec. 23, Ute Oil Co. et al, Williams 1, c sw, sd 5150 ft. T 11n, R 26w, Sec. 4, J. J. Rook et al, Davis 1, c nw ne (owd), sd 3240 ft.

WASHITA COUNTY—T 8n, R 19w, Sec. 29, Snodgrass et al, Blocker 1, nw c, sd 2400 ft. T 8n, R 18w, Sec. 21, Burns & Prince, Dock 1, sw c, sd 1106 ft.

GREER COUNTY—T 7n, R 22w, Sec. 1, Good & Dowell, Cliffel 1, nw c, sd 1745 ft. T 7n, R 21w, Sec. 23, H. A. French et al, Murphy 1, sw nw se, sd 1654 ft.

COMANCHE COUNTY—T 4n, R 12w, Sec. 33, Snodgrass et al, Willetts 1, ne c nw, sd 190 ft.

GARVIN COUNTY—T 2n, R 2w, Sec. 24, Malernee, Phillips 1, ne c sw, sd 4800 ft.

MURRAY COUNTY—T 1n, R 2e, Sec. 6, Capital P&R, Cutchall 1, se c ne, sd 2432 ft.

COAL COUNTY—T 1n, R 8e, Sec. 35, W. E. McCraw, Stiring 1, ne c se, sd 1846 ft. T 1s, R 8e, Sec. 2, Rabiel Oil Co., Richardson 1, ne c nw, sd 920 ft.

ATOKA COUNTY—T 3s, R 10e, Sec. 18, Brookshire et al, Quinn 1, nw c, sd 1540 ft.

LOVE COUNTY—T 6s, R 2e, Sec. 27, Batson et al, Cross 1, ne c nw ne, sd 1632 ft.

BRYAN COUNTY — T 7s, R 10e, Sec. 8, Bryan Oil Co., Childs 1, ne se sw, sd 660 ft.

KANSAS

SUMNER COUNTY—Trees Oil Co., Springate 1, ne se sw, 6-34-2e, sd 2300 ft.

FORD COUNTY—Carter et al, Community-Everett 18, c ne, 22-20-21w, coring 6140 ft.

STAFFORD COUNTY — Rosenthal, Stanolind, Amerada, Gray 1, c ne, 11-34-13w, sd 3560 ft.

FINNEY COUNTY — National Refg. Co., Wells 1, sw c 13-23-30w, td 1500, ft, ur 15 in.

HARVEY COUNTY—J. P. Flannigan, Sheridan 1, c sw, 32-22-1e, dr 3653 ft.

BARTON COUNTY—Skelton Oil, Ott 1, c se se, 16-19-14w, dr 3097 ft.

ELLSWORTH COUNTY—Keys et al, Gregory 1, sw c 23-17-9w, sd 3610 ft.

RUSSELL COUNTY — Austin Drlg. Co., Rockefeller 1, se c, 6-13-12w, td 3374 ft, rng 5-inch.

NORTHERN CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
VENTURA COUNTY—		
Bardeen Pet. Co.'s Lanjershim 1B..	100	1800

KERN COUNTY

ANTELOPE PLAINS—Meridian Oil Co.'s No. 1, 11-9-15, dr hard sand 3885 ft.

BLACKWELL'S CORNER—Signal Oil and Gas Co.'s Lincoln 1, 15-26-19, repairing rig and completing water lines.

BUTTONWILLOW — Graham-Loftus Oil Co.'s Carmel 1, 20-27-22, dr shale 3696 ft. Milham Exploration Co.'s Crites 1, 8-28-23, redrilled to 3190 ft, 9⅝ inch cas cmt on bottom.

DEVIL'S DEN — Cumberland Oil Co.'s Cumberland 2, 17-26-18, dr shale 2850 ft.

LOST HILLS—General Pet.'s No. 1301, 13-26-20, fsh for drill pipe at 3665 ft, td 4399 ft. Lincoln Pet. Co.'s Theta 1A, 12-26-20, twisted off drill pipe, pulled all but 100 ft, td 5328 ft.

McKITTRICK — California Oil Producers' No. 2, 30-30-22, plugged to 5050 ft, td 6660 ft. T. H. Purman's No. 1, 22-29-21, sd 100 ft.

WEED PATCH—Osborn and Colter's Duff 2, 15-30-29, placing on pump, td 1952 ft, made some heavy oil by swabbing.

SANTA BARBARA COUNTY

COAL OIL POINT — Bolsa Chica Oil Corp.'s Permit 191-1, 24-4-9, sd 5510 ft.

GOLETA—General Pet.'s More 3, 22-4-28, swabbed water, td 4781 ft.

SANTA MARIA—Western Gulf's Bradley 1, 5-9-33, dr brown shale 7785 ft.

VENTURA COUNTY

HOPPER CANYON — Bardeen Oil Co.'s Lankershim 1B, 13-4-19, pumping 100 bbls 29 gravity oil, may deepen from 1800 ft.

OJAI—Rancho Reva Oil Co.'s No. 8, 28-4-23, dr shale 1565 ft.

OXNARD—Magu Synd.'s Utt 1, 17-1-21, dr shell 5118 ft.

RINCON — Chanslor-Canfield Midway Oil Co.'s Hobson A2, 23-3-24, plugged to 7825 ft, producing 100 bbls oil on compressor, td 10,030 ft. Continental's Grubb 1, 23-3-24, fsh for liner, td 6644 ft.

SANTA PAULA—San Pedro-Pt. Fermin's Kellerman 1, 13-4-21, pulled 4¾-inch cas, r to bottom, td 3535 ft.

SOUTH MOUNTAIN—H. H. Bell's Lemon 1, 23-3-21, dr shale 900 ft.

MISCELLANEOUS

KINGS COUNTY—Knudsen and Schmidt's Avenal 1, 36-23-17, 6⅝-inch cas recmt second time 4212 ft, td 4305 ft. Eagle Oil and Gas Co.'s No. 1, 15-23-20, rigging up. Kettleman Lakeview Oil and Gas Co.'s No. 1A, 20-23-20, completed as gas well, no estimate available, td 1170 ft. Valley Exploration Co.'s No. 7-12, 12-23-19, dr shale 1100 ft.

MENDOCINO COUNTY—Twin State Oil Co.'s Soldani 1, 14-12-17, dr hard sand 7700 ft.

MONTEREY COUNTY—Pacific Inland Oil Co.'s No. 1A, 19-23-15, fsh 1350 ft.

SAN LUIS OBISPO COUNTY—Kent and McDonald's No. 1, 3-32-22, dr shale 2200 ft. Trav-El Pet. Co.'s No. 1, 7-32-22, sr to bottom at 2395 ft. Central Coast Investment Co.'s No. 1, 1-28-12, dr shale 400 ft.

TULARE COUNTY—Lulaco Oil Co.'s No. 1, 17-22-22, lcn. W. W. Campbell's No. 1, 22-22-27, lcn. Pettingill's No. 1, 22-22-27, lcn. Ellis and Sanford's No. 1, 20-24-33, dr hard sand 1860 ft.

SOUTHERN CALIFORNIA

ALHAMBRA—Yellowstone Oil Co.'s Huntington 1, 24-1-13, sd 3919 ft.

CALABASAS—L. W. Rucker's No. 1, 26-1-17, dr shale 700 ft. Simi Oil Co.'s No. 1, 16-1-17, dr shale 2735 ft.

FULLERTON — Standard's Bastanchury 1, 21-3-10, sd 8144 ft, pulled 9-in cas, may continue tests of upper showings.

HERMOSA BEACH — Baxter Pet. Corp.'s No. 1, 6-5-14, rig. Westwood Oil Corp.'s No. 2, 6-4-14, sd 2145 ft.

LOMITA—Higgins Brothers' Hamlin 1, 6⅝ inch cas cmt 4600 ft, td 4781 ft.

LYNWOOD—William Jones' Jepson 1, 31-2-12, rigged to sp.

MONTEBELLO—Wardell and Menichini's No. 1, 7-2-11, new lcn.

MONTEREY PARK—Celito Oil Co.'s Jepson 1, 25-1-12, swabbing water 5217 ft.

NEWHALL—O. C. O. Oil Co.'s Wilman 1, dr shale 1005 ft.

NEWPORT—Ajax Pet. Co.'s B. G. 1, 16-6-10, dr shale 5555 ft. Nuoil Co.'s Gessell 1, 29-6-10, sd 1370 ft, made some oil. Superior's Irvine 1, 27-6-10, dr hard sand 2795 ft.

OCEAN PARK—Hines Pet. Corp.'s Happy Days 1, 8-2-15, co to bottom, td 7330 ft, recovered drill pipe.

PLAYA DEL REY—Cooperative Pet. Dev. Co.'s No. 1, 26-2-15, rigging rotary.

SAN FERNANDO—El Caballero Estates' No. 1, 23-1-16, dr shale 1378 ft. Mack Oil Co.'s No. 1, 6-2-16, dr hard sand 550 ft.

NORTH LOUISIANA

BIENVILLE PARISH — Arcadia Drilling Co.'s Mason 1, ne sw 28-18-6w, dk.

BOSSIER PARISH—Andrews & Davlin's Nattin 1, 15-22-14, 4½ cas 2882 ft, sd wo 2890 ft. Dr. Hankins et al's Newell 1, 12-19-11, dr 1531 ft. D. L. Perkins et al's Ardis 1, 13-15-11, top Nacatosh 944 ft, sd 1004 ft.

CADDO PARISH—United Gas Pub. Serv. Co.'s H. J. Bussa 1, 33-23-16, 12½ cas 375 ft, 9⅝ cas 3625 ft, dr 3743 ft (5500 ft test). Pelican Nat. Gas Co.'s Cooper 1, 29-18-14, ta 3648 ft, red shale and lime.

CALDWELL PARISH—Monroe Pet. Corp.'s Burton 1, 35-12-2e, sd acct titles 2986 ft. Carter Bell et al's Taylor 1, 17-14-4e, 12½ cas 110 ft, sd.

DE SOTO PARISH — Rellitt O&G Co.'s Cannon Hrs. 1, 12-11-16, top chalk 1475 ft, base 1810 ft, 6-inch cas with pckr set at 1470 ft, dry wo, td 1965 ft. Keatchie O&G Co.'s Smith 1, 31-14-15, sd 2350 ft. E. T. Oakes' Johnson 1, 3-13-15, base chalk 2160 ft, top another chalk 2815 ft, sd for fuel 3001 ft chalk. Walters & Nicholson's Jim Guy 1, 3-11-13, sd 1260 ft.

LA SALLE PARISH—Gulf Ref. Co.'s Tremont Lbr. Co. 1, ne sw 10-9-2e, 15½ cas 105 ft, 12½ cas 940 ft, dr hd gray sand strks black shale 4134 ft.

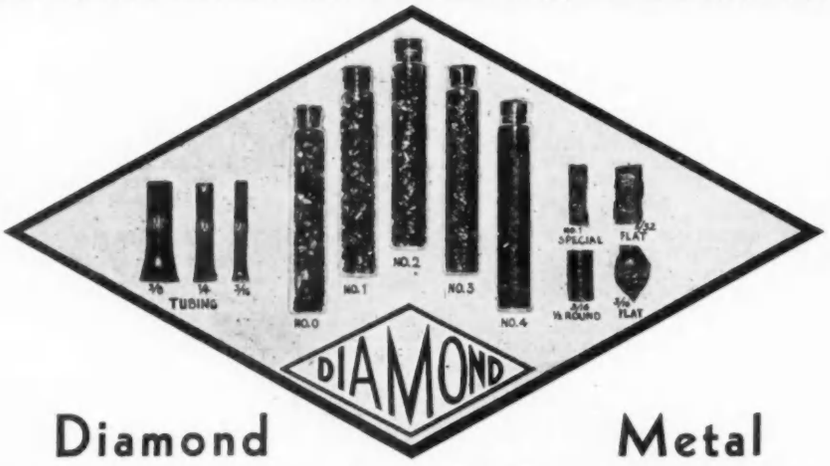
NATCHITOCHES PARISH—Midwest Prod. Co., Inc.'s, Brown 1, 31-11-10, dk. C. M. Talley et al's Talley 1, 29-1-10, sd 1380 ft. J. W. Cooper et al's Cooper 2-A, 35-11-10, sd 1515 ft. Gerson et al's Smith Island 1, 1-10-8w, sp.

OUACHITA PARISH—S. C. Wilson et al's W. L. Williams 1, sw se 5-16-1e, dk.

RED RIVER PARISH—Mack Jourdan Co.'s Lockett 1, 33-13-10, sd 2550 ft.

RICHLAND PARISH—National Gas Co.'s Singletary 1, 20-18-7e, sd 2515 ft.

SABINE PARISH—Langbridge Oil Corp.'s Stephens 1, se ne 17-9-11, elev 303 ft, 6⅝ cas 3176 ft., swabbed 80 bbls 39.1 grav oil in 48 hours, set 2-inch tub with pckr, made 36 bbls oil by heads in 15 hours, may standardize, td 3626 ft. J. J. Kean's Belton 1, nw se ne 31-9-13, elev 233 ft, 8-inch cas 1590 ft, dr 1800 ft. H. W. Perritt's Bowman-Hicks 5, 2-7-12, 10-inch 100 ft, 6-inch 2220 ft, dry at 2230 ft and at 2437 ft, arr abn as dry hole, td 2437 ft. A. H. Thames' Edwards Est. 1, 8-8-13, sd 1200 ft. R. L. Gay, Tr.'s, Long-Bell A-1, nw nw 10-8-13, sd 3853 ft. Coates Pet. Co.'s Bowman-Hicks A-1, sw se 18-7-13, dr 2170 ft; Bowman-Hicks 1, ne sw 2-7-12, oil show in Wilcox 1670 ft, top marl 2230 ft, top chalk 2300 ft, wosr 2441 ft; Sabine B-1, sw nw nw 1-7-12, 10-inch 100 ft, top marl 2237 ft, top bro chalk 2255 ft, top hd chalk 2264 ft, 6-inch 2237 ft, wosr 2306 ft; Sabine 2, se nw 1-7-12, lcn; Stille 1, nw se 35-8-13, lcn; Hill 1, se se 35-8-13, lcn; Hale 2, nw sw ne 1-7-13, 10-inch 100 ft, 6-inch 2097 ft, top marl 2097 ft, top chalk 2108 ft, flowing est 200 bbls oil day, wo gauge, td 2392 ft. Dengail Oil Co.'s Nulton 3, sw sw ne 1-7-13, rig; Nulton D-2, nw ne 1-7-13, lcn. Ohio Oil Co.'s Bowman-Hicks 9, 35-8-12, lcn; Bowman-Hicks 10, 35-8-12, lcn; Bowman-Hicks 11, 2-7-12, lcn; Bowman-Hicks 12, ne ne 2-7-12, sp 10-inch 221 ft. Diffie & Barrett's Lites 1, 34-8-11, 10-inch 105 ft, sd. Hudson & Bird's Walden 1, sw ne 26-8-11, 10-inch 100 ft, sd for water 1800 ft. Gerhig Co.'s W. F. Skinner 1, nw nw 16-8-11, sp 10-inch 105 ft. Hawkins & Antton's Newton 1, 1-7-11, wosr 2610 ft. L. K. McGuffin's Byrd 1, 1-7-11, sd 400 ft. Zeke Lohman's McCormick 1, ne sw 2-7-11, sd 1606 ft. Ben Merritt, Tr.'s, Byrd 2, 1-7-11, 10-inch 88 ft, sd. Roy Baker's Sabine 1, 11-7-12, wosr 2548 ft. Gautier et al's Meshell 1, 30-8-12, wosr 2530 ft. Lanier & Dyer's Barthold 1, 35-8-12, wosr 2531 ft. Loring Oil Co.'s Bowman-Hicks 18, sw nw 15-7-12, 15½ cas 100 ft, dr 3885 ft lime. G. M. LeGrand's Peterson 1, sw ne 34-7-13, 10-inch 40 ft, claims 3 ft sand showing oil 2137-40 ft, arr



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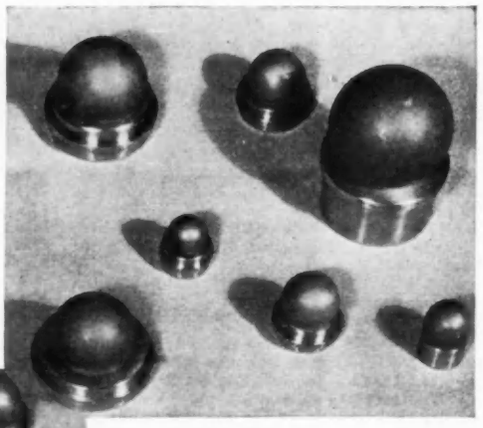

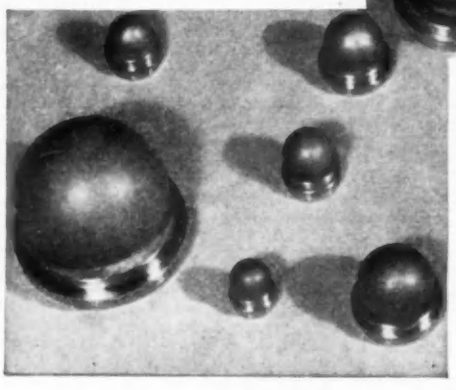

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set 6-inch cas. A. F. Tarver's Cutrer 1, 14-7-11, wosr 2550 ft. Crescent Drilling Co.'s Byrd 1, 12-7-11, 10-inch 100 ft, setting 6-inch cas 2375 ft. Lyons & Neely's Byrd 3, 1-7-11, 10-inch 100 ft, sd 400 ft. Eddie Self's Jacobs 2, sw se 1-7-11, 10-inch 100 ft, dr 1600 ft. Stovall Drilling Co.'s Nulton 2, 1-7-13, 10-inch 100 ft, dr 1600 ft. O. J. Baird's Duggan 1, se nw se 14-7-11, rig. Davidson & Grigsby's Martinez 1, nw se 2-7-13, dk. M. J. Kissick's Brown Lbr. Co. 1, nw ne 1-7-11, lcn.

TENSAS PARISH—A. R. Willis' Curry 1, 39-11-12e, sd 3545 ft. L. A. Duvall et al's Martin 1, Jacoby 1, ne ne 1-14-10e, 10-inch 200 ft, sd 2775 ft. Stovall Drilling Co.'s Miller 1, ne sw 18-10-10e, lcn.

UNION PARISH—Don Brooks, Tr.'s, Douglas 1, ne sw 9-22-2w, 12-inch 170 ft, top chalk 2317 ft, top red beds 3079 ft, sd 3509 ft gumbo.

SOUTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
VERNON PARISH—		
Exchange Pet. Corp., White Grandin Lbr. Co. 1	*	2735

ACADIA PARISH — Yount Lee Oil Co.'s Houssiere Latrielle 10, Evangeline Dist., 47-9s-2w, dr new hole at 7580 ft, sdtrkd old hole at about 7460 ft, td old hole 7785 ft, O. S.

ASCENSION PARISH — Gulf Ref. Co.'s United Lands Co. 20, 15-10s-4e, bldg rdways. McElroy Oil Co.'s Lacy 2, sw offset to Sorrento dome, 20-10s-4e, stg 4070 ft.

CALCASIEU PARISH—Success Oil Co.'s John Hewitt 1, 2 mi ne Edgerly fld, 11-9s-11w, ru and stdg. J. O. Davis, Ind., Lbr. Co. 1, 8 mi n Starks Dome, 20-9s-12w, sd 6565 ft.

CAMERON PARISH—Pure Oil Co.'s Yount Lee 5, Sweet Lake Dist., 12-13s-8w, ru. R. E. Seiss, Trustees', J. M. Vincent 2, old Hackberry Dist., 30-12s-10w, sd 2160 ft.

IBERVILLE PARISH—Standard Oil Co. of La.'s Myrtle-Grove-Wilbert 1, Bayou Choctau dome dist., 52-9s-11e, plg back to 2540 ft, cmtd 7-in cas at 2400 ft to test o. s. at 2430 ft; Wilbert-Myrtle-Grove 2, same dist, lcn 2040 ft n and 600 ft w of c Sec 52-9s-11e; Gay 2, lcn 600 ft e of sw cor of se¼ 52-9s-11e; Schwing 6, Bayou Blue dist., 74-9s-10e, dr 3300 ft.

LA FOURCHE PARISH—State Prod. Co.'s Dibert-Starck-Brown B, lcn in Chacahoula dome dist, 71-15s-15e; Dibert-Starck-Brown C, lcn in same Sec., Tnshp, Rnge. The Texas Co.'s Leesville 3, Leesville dist, lcn 4439 ft s and 468 ft e of nwc Sec 26-21s-22e.

PLAQUEMINE PARISH—Humble Oil & Ref. Co.'s Cockrell-Moran 6, 20s-26e, dr 1235 ft, set 350 ft 13⅜ inch cas.

TERREBONNE PARISH — Louisiana Gas & Fuel Co.'s Minor Est. 2, Houma dist., 3-18s-16e, td 1332 gbo, set 285 ft of 16-inch cas. The Texas Co.'s State Bay Junop 2, Bay Junop dist., 28-21s-14e, dr 3072 ft, set 1280 ft 12½-inch cas; State Lake Barre 11, Lake Barre dist, dr 1602 ft, set 1065 ft 12½-inch cas; L. L. E. Lake Barre 1, completed canal; State Lake Pelto 5, lcn 1505 ft n and 1539 ft w of se cor Sec. 8-23s-18e; Lake Pelto 6, new rig.

VERMILLION PARISH—Pure Oil Co.'s West Lake Land Co., 2s, 4-12s-1w, dr 4990 ft.

ARKANSAS

CHICOT COUNTY—W. R. Smith's Lytle 1, 31-8-13, ta 2925 ft.

CLAY COUNTY—S. C. Jeffus, Tr.'s, Underwood 1, 4-20-8e, sd 1260 ft.

CLEBURNE COUNTY—Donnell et al's Fee 1, 33-11-9, sd after testing sw 3515 ft.

CLEVELAND COUNTY — Crum & Stilwell's Bell 1, 10-10s-12w, rigged up and sd.

COLUMBIA COUNTY—Kendall Oil Co.'s Fullenwider & Kitchen 1, ne ne 13-17-22, 8¼ cas 800 ft, bailed down 150 ft from top, showed fresh water small show oil, 3 ft sand, sd wo, td 814 ft.

CRAWFORD COUNTY—Ozark Nat. Gas Co.'s Hammonds 1, se se 29-10-29, dr 1630 ft shale.

DALLAS COUNTY—Zepp O&G Co.'s W. E. Hillman 2, se ne 20-1-13, 10-inch 135 ft, 6-inch on bottom, td 2620 ft chalk rock. Jno. James, Tr.'s, Fordyce Lbr. Co. 1, 11-9s-15w, sd 2520 ft. E. C. Brewer, Tr.'s, Hillman 1, 20-10-13, sd 2869 ft, white sand.

HOT SPRINGS COUNTY—Starr Oil Co.'s

Cunningham 1, 11-5-16, 12½ cas 62 ft, sd 1262 ft shale and bldrs.

JOHNSON COUNTY—Blackwell O&G Co.'s Wyver 1, 21-8-23, ta 5600 ft.

LINCOLN COUNTY — L. B. Cook, Tr.'s, McGehee Pltg. Co. 1, 5-8s-7w, sd 2800 ft.

LITTLE RIVER COUNTY—Geo. Stephens et al's Dierke Lbr. Co. 1, ne nw 29-12s-31w, dk. Fay Roberts Oil Co.'s Russell 1, 25-12-29, lcn.

LOGAN COUNTY—M. W. Greesom's Parks 1, 21-8-24, sd 1309 ft. J. H. Flowers' White 1, 13-5-26, sd 3610 ft.

MILLER COUNTY — W. E. Noel et al's Dickson 1, 11-20-27, sd 1955 ft, shale and gumbo. Fitzwater et al's E. L. Beck 1, sw se 33-15-26, 10-inch 85 ft, sd 1985 ft repr boiler.

OUACHITA COUNTY—W. M. Copenhaver et al's Berg 1, se se 13-15-17, 10-inch 42 ft, sd 532 ft gumbo.

PIKE COUNTY—Henderson et al's Tilyou 1, 26-8-24, ta 2920 ft. Kentucky-Ark. O&G Co., Inc.'s, East 1, 13-9-23, 10-inch 288 ft, hole full fresh water, td 709 ft.

PRAIRIE COUNTY — Powell Creek O&G Co.'s Kloss 1, ne sw 3-4n-6w, partly rigged up and sd.

SCOTT COUNTY — Heavener O&G Co.'s Reser 1, 36-4-26, sd 1536 ft. Waldron O&G Co.'s J. G. White 1, 17-3n-29w, sd 1860 ft, (second hole).

SEBASTIAN COUNTY—M. W. Greesom's Spear 1, 9-7-29w, sd 1536 ft.

SEVIER COUNTY—Tri-State O&G Co.'s Bank of DeQueen 1, 34-8s-32w, rig.

UNION COUNTY—Southern Prod. Co.'s Wingfield 1, 16-19-15, sd 2608 ft. O. R. Co. et al's Guy P. Hayes A-9, ne ne 4-16-15, elev 96 ft, cored rock salt 5974-80 ft, dr rock salt 6031 ft (6000 ft test). Drillers Oil & Dev. Co.'s Pickering 1, 1-17-16, cored cap rock and oil sand 2128-34 ft, 1½ ft cap and 4½ ft oil sand, arr set 6⅝ cas 2128 ft, td 2134 ft. Joe Modisette et al's Webb 1, nw se 6-18-13, sp dr 40 ft.

WASHINGTON COUNTY—Lincoln Lease Holding Synd.'s Townsite 1, 3-15-32, ta 1500 ft. C. H. Willoughby's Jones 1, 34-16-30, sd 2150 ft. O'Hara & Shetterley's Boyd 1, 2-16-32, ta 650 ft. Delbert Graves' Cunningham 1, 14-15-32, sd 602 ft, gray sand.

YELL COUNTY — T. Luckett's Balcon 1, 36-7-12, sd 5710 ft.

MISSISSIPPI

CLARK COUNTY (Quitman Dist.)—Gulf Ref. Co.'s Long Bell Lbr. Co. A-1, sw sw 10-2n-16e, elev 380.3 ft, 15½ cas 105 ft, 10-inch 956 ft, top black shale 2290 ft, top chalk 2633 ft, cemt 7-inch OD cas 3685 ft, sand showing saturation heavy oil 3692-3700 ft. Eutaw, td 3700 ft in brown and green sand.

CHICKASAW COUNTY—Hightower & Golson's Fleming 1, 20-13s-3e, sd 1640 ft.

HUMPHREYS COUNTY—Danciger O&R Co.'s Bellgrade Lbr. Co. 1, nw nw 29-14n-4w, 10-659 ft 2 joints drill stem, bit and collar recovered at 2080 ft, dr 2296 ft.

JASPER COUNTY (Bay Springs Dist.)—Bay Springs Pet., Inc.'s, J. H. Keyes 1, nw ne 21-2n-10e, sd 2360 ft, Wilcox.

LAMAR COUNTY (Purvis Dist.)—Stauffer & Kouri, Trs.' Bond 1, se ne 18-2n-14w, dk.

LOWNDES COUNTY — Lowndes County Oil & Dev. Co.'s Fee 1, 33-17s-16e, dk.

MONROE COUNTY (Amory Dist.)—Amory Dev. Co.'s Bourland 1, 2-15-19, ta in brown sand 3007 ft. P. J. McAlpine's Cowart 1, 2-12s-19w, 5 3/16 cas 3420 ft, dr 3535 ft, lime. Associated Royalties' School Board 1, sw se 16-15-17, ta 60 ft.

NEWTON COUNTY (Newton Dist.)—Dalton Dev. Co.'s Majure 1, se se 25-6n-11e, 10-inch 295 ft, sd 575 ft.

NOXUBEE COUNTY (Macon Dist.)—Thompson O&G Synd.'s Donahue 1, se ne 35-16n-17e, elev 280 ft, 12½ cas 20 ft, 8¼ cas 1605 ft, td 1715 ft, sandstone; Ames 1, nw nw 24-16-18e, dk pat.

RANKIN COUNTY (Jackson Dist.)—Gulf Ref. Co.'s Hanna A-1, nw se 23-5n-1e, dr 2310 ft, gummy shale (second hole). Atkisson & Dyer's Valentour 1, 18-5-2e, 12½ cas 60 ft, sd 1198 ft. United Gas Pub. Serv. Co.'s McLaurin A-1, ne sw elev 284 ft, 12½ cas 105 ft, 9-inch cas 854 ft, top Wilcox 1219 ft, top chalk 2513 ft, tested sw several times at top chalk through ds, tested dry through ds 2600-

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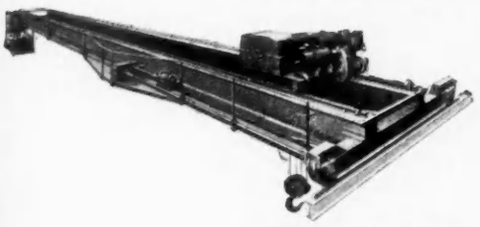

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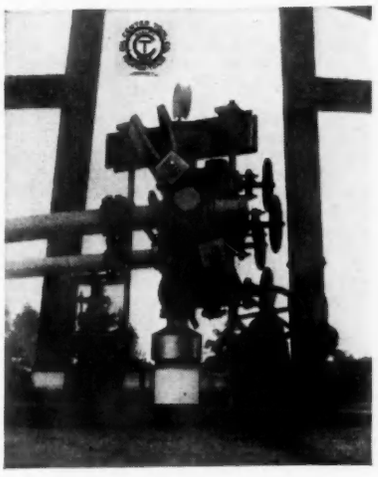

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2622 ft, sd repr rig, td 2622 ft. Majestic O&G Co.'s Elton Lbr. Co. 1, 10-4n-3e, dk.

SCOTT COUNTY—Culley et al's Owen 1, 2-8n-9e, dk.

WARREN COUNTY (Vicksburg Dist.)—Eagle Lake O&G Co.'s Kiger 1, sw ne 9-18.2e, sd 2607 ft. United Gas Pub. Serv. Co.'s Tchula Store 1, sw se 33-15n-3e, elev 83.8 ft, 15½ cas 184 ft, 10-inch 855 ft, top Claiborne 725 ft, dr 2598 ft gumbo.

WEBSTER COUNTY — P. J. McAlpine's Henley 1, se nw 15-21-11e, cored gravel, sd 1800 ft.

WINSTON COUNTY (Louisville Dist.)—Miss. Drilling Co.'s Scarbrough 1, nw nw 15-13-14e, dr 4010 ft.

ALABAMA

MADISON COUNTY — Tennessee Valley O&G Co.'s Fee 4, 1.4s-2e, no report.

SUMTER COUNTY (Livingston Dist.)—Forked Lightning O&G Co.'s Nixon 1, 30-20-2w, dk.

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WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, arr change to rotary, td 925 ft, Wilcox. Hobson 1, 9-8-2w, ta 1450 ft. Oscar Brown's U. S. Land & Cotton 2, 25-3-2w, ta 700 ft.

TENNESSEE

CHESTER COUNTY—Gilmore et al's Scott 1, sp with cable tools.

DECATUR COUNTY—Chester County O&G Co.'s Montgomery 1, sd 2511 ft (2500 ft contract depth).

MONTANA

CARBON—Corbett Roy. Co., sw se 1-6s-23e, resum at 350 ft. Jack Creek Oil Co., 1, se 15-7s-23e, dr bel 1250 ft.

CASCADE—Buscher & Cassady, Johnson 1, se 19-22-3e, fsh tools 1010 ft. Chas. Merz et al, Sheffelt 1, sw 4-21.4e, spdg 100 ft.

CHOTEAU — Williston-Shelby O&G Co., Flack 1, se 12-28-11e, sd 2867 ft, title troubles.

GLACIER—Gulton Pete Corp.'s Blackfeet 1, ne 28-38-12w, dr 2710 ft. Browning Dev. Co.'s Reickhoff 1, ne 3-34-6w, rigged. R. C. Tarrant et al, Haglund 1, sw 13-34-6w, test cem at 616 ft.

GOLDEN VALLEY — Golden Valley Oil Co., 28-6n-22, to res 1140 ft.

LIBERTY — Peoples O&G Co., Firt Nat'l Bank 1, ne 17-36-6e, dr 1800 ft. California Co.'s Utopia Oil Co., se 11-33-6e, dr 3264 ft. Northland O&G Corp., Yurman 1, sw 32-33-5e, sd 3705 ft, wait for new dr line.

ROSEBUD—Prairie O&G Co., 1-XX, 26-10-39e, dr 4080 ft.

SWEETGRASS—Shoshone Cons., nw 23-2n-15e, straight reaming below 5360 to cem at 5792 ft.

TETON—Andover Oil Co.'s Carlson 1, 5-24-4w, stand 150 ft. California Co.'s Sullivan 1, nw 34-27-7w, co, td 2137 ft. Earl Oil Corp., Gad 1, se 22-22-8w, td 3730 ft.

TOOLE—Liquid Gold Oil Co.'s Elbert 1, ne 25.36-12, to run 5-inch to s.o.w. 2480 ft. Oregon Oil Synd., se 20-36-2e, dr 1500 ft, carry cas.

YELLOWSTONE—Pan American Oil Synd., 23-2s-24e, cem 8¼-inch, td 2095 ft. Peter Antonioli 1, ne ne 21-2n-25e, dr 2150 ft, 10-inch hole.

WYOMING

CARBON—Midwest Refining Co., U. P. 27, 27-11-81, straightening hole 4010 ft. Prairie O&G Co., Bunker Hill 1, 29-27-87, dr 5725 ft.

CONVERSE—John Ackard, se 24-33-72, dr 1685 ft. Otto Olston 1, 1-32-74, sd for refinancing at 570 ft.

CROOK—Northwest Gas & Oil Co., 6-54-60, spudding.

FREMONT—Wiebolt et al, 35-33-99, dd from 1850 ft. Ward O&G Co., 28-34-90, sd to refinance, td 2500 ft. Yellowstone Oil Co., 14-38n-94w, dr bel 617 ft, last report.

LINCOLN—Wyo. Prod. Co., 14-24-113, bottomed at 1700 ft.

NATRONA — Midwest's 11, nw 32-34n-77, stand 5340 ft. Midwest's Midway 1, ne 23-35n-79w, ripping 7-inch to plug back to second Wall Creek. Summit Oil Co., 21-33-80, ur, td 1400 ft. Wyo. Imperial Oil Co., se 13-33-79, rig up.

NIOBRARA—Globe Pete Corp., 2-39-61, dr 248 ft according to last report.

SHERIDAN—R. & D. Oil Co., se 21-57-87, dr 1120 ft, two small shows gas reported.

SWEETWATER—Vermillion O&G Co., sw sw 16-12n-99w, ur 8¼ inch at 4685 ft.

UINTA—Transwestern Petroleums, Ltd., 6-14-118, fsh tools 3100 ft. Clawson et al, 29-14n-118w, location. Park City O&G Co., 16-15n-113w, dr 2800 ft, according to last report.

WASHAKIE—Ohio Oil Co., lot 14, 19-45-92, dr 8000 ft, headed for the Muddy.

WESTON—LeFaivre Oil Synd., se 29-45n-68w, dr 1400 ft. Julius Peters et al, Witzell 1, se nw 30-46-64, dr 2530 ft. Stockade Anticline Synd., 32-45-60, dr 800 ft. Gose Oil Synd., Gose 1, 28-47-65, dr 4955 ft.

COLORADO

ADAMS—Hills Dome Lease Dev. Co., se 27-38-64w, dr 3735 ft.

ARAPAHOE — McDeb Cr. Co., Fitzsimons 1, ne 7-4n-68w, co 5785 ft.

BOULDER—C. T. Ahlstrand's Woodley 1, ne 8-3n-70, prep to set pipe 485 ft. Julius Williams, 6-1n-71w, dr 150 ft last report. Independent O&R Co., Blair-Winter 1, nw nw 25-3n-71, gas show 185 ft.

EL PASO—Gulf States Oil Corp., Cannon 1, ne 10-16s-66w, to res at 1025 ft.

GRAND—Oil Mineral Lands, Inc., McElroy 1, sw 14-2.81w, stand 545 ft.

JEFFERSON—Ruby Hill O&G Co.'s Braden 1, se 24-4s-59w, dr 4050 ft.

LA PLATA — McGarr Pete Co.'s Pinon Mesa 1, ne 34-33n-12, rig up. Klem Pete Corp.'s Olbert 1, se 9-26n-12w, stand 3125 ft. J. W. Irwin & Co., Doescher 1, nw 29-33n-12, dr 3130 ft.

LARIMER—Mayer Oil Co., No. 1 Reed, nw 28-4n-69, to res at 2400 ft. P. J. Mosher, Inc., sw se 17-4n-69, resum at 85 ft. Colorado Producers, Inc., Foster-Motz Reservoir 1, se se 17-4n-69, stand 250 ft. Consolidated Drlg. Co.'s Maxwell 1A, ne ne 25-8n-70, dr 200 ft. Stanley M. Barrows' Munroe 1, nw ne 26-11n-69, to res at 1050 ft.

LINCOLN—Eastern Colo. Oil Corp.'s State 1, 36-14n-57w, fsh 3425 ft.

MORGAN—Ind. Terr. Illum. Oil Co., State 1, ne 16-1n-57w, dr 5920 ft. Independent O&R Co., Schmidt 1, nw 19-6n-60w, rig. Badger Creek O&G Co., sw 2-2n-57w, wait cas 1200 ft. Colo. Ass. Oil Co.'s Pumphrey 1, se 14-4n-58w, coring 5750 ft. Tulsa-Fort Morgan Oil Co., Smith 1, sw 18-6n-60w, cellar. Prairie O&G Co., Mortier 1, nw 2-5n-60w, dr 4000 ft. Juhan et al, Kent 1, sw 2-2n-57w, co 1214 ft to run cas. Myers et al, Lee & Lusby 1, sw 6-2n-56w, location.

PARK—So. Park Oil Co.'s Milligan 1, se 13-8s-76w, dr 2490 ft. So. Park O&G Co.'s Easche 1, ne 9-5s-76w, sd 2465 ft for cas.

RIO BLANCO—California Co.'s Raven 1, se 20-2n-102, dr 2799 ft. Magnolia Pete Co.'s Maddock 1, se 9-2s-96w, cem 13⅜-inch to s.o.w., td 1532 ft.

ROUTT—Mid-Colo. Pete Corp., Omholt 1, ne 29-4n-87w, dr 680 ft.

WASHINGTON—Frank E. Kistler's Middlemist 1, se 14-4-56, stand 1510 ft, to res.

WELD—Reiter-Foster's Johnson-Juhl 1, 14-6n-61w, change to cable tools to dr in at 6640 ft. Reiter-Foster's Wilson 1, se 24-6n-61w, spd 135 ft. Aztec Corp., State 1, se 16-6n-61w, 15½-inch cem 115 ft. Retter Oil Co., Smith 1, 14-1n-68w, dr 1250 ft. Conoco, Gadbois 1, sw 24-6n-61w, bad fsh job, td 6593 ft. Greeley Oil Co., Gadbois 1B, nw 25-6n-61w, sd 5500 ft for casing. Gulf States Oil Corp., Bengston 1, nw 6-4n-63, location. Platte Valley Petroleum Co., Niles 1, se 13-6n-61, cellar. Prairie Oil & Gas Co.'s O'Toole 1, ne 33-7n-62w, building rig.

NEW MEXICO

BERNALILLO — Norrins Realty, Pajarito Grant, 22-9n-2e, dr 785 ft.

DE BACA—Saldo Dome Oil Corp., sw 6-4n.20e, stand cem 3181-89 ft: Landowners Oil Co., State 1, ne 16-1s-27e, cem at 4596 ft.

EDDY—Western Drlg. Co., nw 29-17-29, rigging up.

DONA ANA—Viking O. & Dev. Co., 1, nw 26-23-5e, fsh pipe, td 3065 ft.

GUADALUPE—N. M. Prod. & Ref. Co., McMillan 1, 24-5n.16e, ur 12½-inch from 1847 ft, td 2570 ft.

LEA—Pacific Coast Oil Co., Blakey 1, nw 28-19-38, mvg in, dr water well.

OTERO — Ernest et al's 20-26-7e, fsh tools 1251 ft. Pasotero Oil Corp., Evans 1, sw 22-24s.12e, stand 1375 ft.

RIO ARRIBA—Berrenger et al's Hartman 1, se 8-29n-7w, sd 825 ft. San Juan Pete Co.'s Gov't 1, se 14-30n-7w, stand 380 ft. Governador Oil Co.'s 1, 12-29n-7w, dr 1762 ft.

ROOSEVELT—Peterson et al, Good 1, ne 32-5s.30e, ready to spud.

SAN JUAN—Kutz Canon O&G Co., Day 1, se 20-28n-10w, wait for cas 3635 ft. Rio Grande Dev. Co.'s 2, 9-29-11, dr 1771 ft. Continental Oil Co.'s Rattlesnake 24, 1-29n-19w, repair boilers, td 5960 ft. San Juan Leaseholds, Bowman 3, ne 30-30-15, sd 2685 ft. R. C. Oswell et al, nw 34-30n-11w, dr 1085 ft. Wms. et al, Stallings 1, sw 17-25n-15w, stand 150 ft. Ortega et al, Westwater 2, ne 24-31n-18w, co 2190 ft, td 2460 ft. Dorothy Oil Co.'s Terwilliger 2, se 29-30-9, sd 1750 ft.

SANTA FE—Jones, Owsley et al, 5-10n-9e, location. Barton Ass'n, sw 6-10-7e, dr 140 ft.

TORRANCE—Estancia Valley Carbon Dioxide Dev. Co., DeHart 2, se se 12-7n-7e, dr 495 ft. Fisher et al, 6-10n-7e, spdg.

Letters of Paul Peebles, P. S. G.

▼ ▼ ▼

My dear Cleopatra:

Well Cleo honey I guest you being down to Goose Creek and traveling not being so brisk on account of the depression and it not being so many cars for people to hitch hike on, well maybe you do not get all the low down on things like I do, so I will tell you some of them like the report that Charley Curtis is going to quit being vice president up to Washington and be the Czar or Musileni or sumthing for the oil business. Well it is a rumor which he has denied, and I should think so on account of right now when it is nearly time for congress to meet and them not knowing which is going to be boss, the democrats or the republicans, on account of they do not know who maybe is going to die next. Well it aint no time for no good GOP man to precipitate a controversy again about how people should sit at the table in Washington. I am presuming that that has been settled. And anyway it is bad enough for a fellow to get a part of the blame for Hoover prosperity, without him setting himself up to get blamed for over production in East Texas. Maybe though honey the big boys which is meeting in the API pretty soon have got some ideas of spending their money foolish on hiring them a dictator, but if they have to I am recommending that they get General Butler or somebody what knows the language. It aint no job for no diplomat, and neither it aint no job for a member of the administration which has had recent experience straightening up the affairs of this United States. It will take a brave man to tackle the job after two state armies have not made much of a go of it.

Then another late development is General Jake getting all mixed up with a federal court judge and beating him to the draw like because he had his answer written before the judge decided to cite him for contempt. That is how good a soldier he is, honey, knowing what the other side is going to do before they think of it themownselves. You see the general knowed that Joe Bailey's boy was on the job. I guess the boy must have been mighty young when his dad got mixed up in the oil business in this state and doesnt know how long it takes for his race to get untangled when he ties up in an oil suit. Some of the fellows is saying that there is some kind of coincidence in what has become of Waters-Pierce and history repeats itself and also about Jacob's voice having harry hands or sumthing like that, but I guess honey you aint smart enough to get the connection.

Well anyway the general proved that he aint no amatuer about being in contempt. He got his early training way back when prohibition was a question with two sides to it.

But anyway, honey, my private advice is that it seems like maybe when this stuff finally comes up to the court it is going to be something happen and while I aint betting on nothing but football games it is my guess that them three judges is going to get through and tackle the general before he can get off another pass. Well honey it is so many people in East Texas which has been sent up by a federal court that they do not pay no more attention to a federal judge than they do to their own judge which comes around every four years electioneering. And some of them have got real fond of the soldiers on account of them being pretty fair cash-paying customers for groceries and cokes and cigarettes, and maybe some other refreshments so they want them to stay there. And that is where it is a opportunity for me.

You see it is like this, if they want to keep some soldiers there they have to really have a riot and I am the one original riot starter. And I am going up there and start one for the boys, and I am going to start in by wrecking the Eldorado restaurant in Longview some evening when the gang has all gathered for supper. You have heard that old story about it just taking one Texas ranger to one riot, well that was at Fort Worth. When I get in action in Longview it is going to take one regiment of soldiers to stop a one man riot, and that is unless I can get some help.

And if the boys dont throw in with me I will get a report started that the soldiers headquarters is going to be moved either to Longview or Tyler and the chamber of commerce of them two towns will start a war over which will get it. Dallas is just a little too far away so they will keep out of it only she will be mad because Gov. Sterling will probably be in Houston when he issues his next executive order. But Dallas is putting over a fast one when they get Sterling and Bill Murray in their town at the same time and even have them eat together at a place where they have napkins which is against Murray's platform.

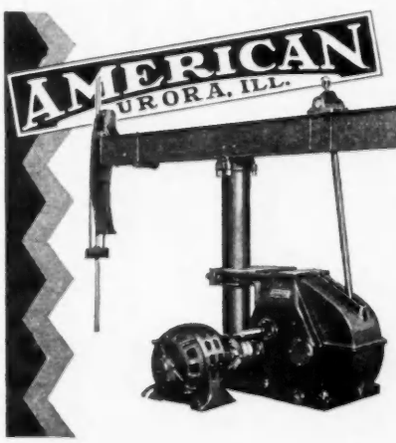
In the meantime I guess it aint nothing for me to do except do like everybody else has got to do and wait and see what happens over at Beaumont next week. I do not know if I had better go over there or not. They is getting depositions from a lot of people but they aint asked me for none so I cant tell yet if they are geing to use evidence or just testimony in the trial. Seems like the attorney general of Texas is just hearing something about what is happening, like a move which is on to kinder keep oil production down in reason which the law says they must not consider market demand. Which latter is one of the biggest troubles the government has got; it is all the time helping show people how to make more stuff from farm crops on up and then lets them figure out for theirownselves what to do with it.

Things is getting all set for the API meeting at Chicago and the big row will be about unitization this year on account of they got things pretty well standardized at the other meetings and then everybody quit buying new stuff and started using up their junk like we is all wearing last year's pants. I do not know no immediate reason for getting mad about unitization just at this time, but maybe some of them think they can see further than others and want to be ready to run their own business again when the soldiers get through.

And it is funny too, honey, that a whole lot of bellyakers is finding out that they aint as bad off as they thought they was and maybe prosperity is just around the corner after all.

Anyway maybe I will be seeing you sometimes.

Your loving Paul.



PICTURED is an "American" No. 4-A Oil Well Pumping Unit, one of the most popular of the complete line of oil well pumping units that are made by The American Well Works. All gears are enclosed and run in a bath of oil. This unit is used throughout the oil fields of the world. Catalogs and engineering data upon request.

C. S. CARTER, *Sales Representative*
711 Thompson Bldg., Tulsa, Oklahoma
D. V. MANN, *Sales Representative*
1311 Kirby Bldg., Dallas, Texas

THE AMERICAN WELL WORKS
General Offices AURORA, ILLINOIS and Factory

Christmas Trees

(*Continued from page* 16)

Christmas tree assembly was in the weight of equipment capable of withstanding the pressures expected. It had long been possible to manufacture valves that would test up to 5000 pounds, but the excessive weight would have made the hanging of a dozen or more of these valves on a flow and lead assembly impractical. Few 5000-pound valves had been manufactured, but the principles involved in the making of 3000-pound valves could have been employed in the manufacture of a still heavier fitting. The manufacturers also realized that various nipples and connections on a Christmas tree could easily be much weaker than the valves; and accordingly set out to make a valve that would not help, through sheer weight, to break up an assembly under pressure. The first installations were reinforced by all sorts of supports, but the more recent designs do not require much help in this respect.

When Kettleman Hills was discovered three years ago, the average weight of the heaviest valves was almost twice that of some valves now capable of withstanding the same pressures. One manufacturer has changed the principle of manufacture so that the great circle of bolts has been replaced by a heavy steel flange. This improvement has increased the strength while reducing the weight of the valve. The special 6000-pound test valve, which is the heaviest yet developed, compares favorably in weight with the low pressure valves of a few years ago. The two-inch size weighs about 75 pounds; the six-inch, 535 pounds; and the 8⅝-inch, 1240 pounds. These valves are for working pressures up to 3000 pounds.

A comparison of the first installations with the latest designs shows a refinement which could have come only with experience. A more tailored appearance is obvious, while the bracing is much neater and stronger in the recent completions than on a few of the first producers. One of the largest wells yet completed does not have a single brace on the Christmas tree assembly. It is a low-hung arrangement and only the two main flow lines touch wooden supports.

Crosses, tees and nipples have been strengthened and refined since the first completion. Various alloys are used to insure strength or ductility. Some trouble has been traced to weakness of connections. Flow beans are used generously and have become an indispensable piece of equipment on every Christmas tree.

Valve Arrangement

The valve has been regarded as the weakest point in the Christmas tree by some; but this is not necessarily true. The valve is subject to more adjustments than other connections, but it is no weaker. Such details as packing around the stem have been studied, and the valves now in use are stronger in this respect than in the first installations. Packing and repairing under pressure are very difficult operations.

The Christmas tree at Shell Oil Company's Dixon 1 might be termed a compromise between the complicated assemblies on a few of the earlier completions and the trim and simpler installations on other producers. It is one of the most flexible yet designed on the North Dome and incorporates a flow scheme which permits a variety of openings. Many of the connections used in this installation were designed and manufactured in Shell Oil Company's own shops.

The principal valve arrangement includes 6⅝-inch, four-inch and three-inch valves. The four valves on bottom and near the derrick floor are four-inch, 6000-pound test bolted type valves. They are on the two flow lines which lead from the annular space between the tubing and the 6⅝-inch flow string. When this assembly was designed, the need for establishing a very high potential could have developed, and such an arrangement for flowing the well from between the tubing and flow string would have reduced the back pressure to a minimum. These four-inch flow lines connect below the flange of the upper head.

A 6⅝-inch valve immediately above the upper flanged head controls the flow from the tubing to the entire upper assembly. The eight three-inch valves on the tubing flow lines really offer a safety factor which is not absolutely necessary. The three-inch double flow assembly above the 6⅝-inch valve is normally sufficient, but immediately above is a four-inch valve, which controls the flow from the tubing to a still higher pair of three-inch leads. Two three-inch valves are placed on each side of the cross.

The top valve is a four-inch conventional type and ordinarily could be eliminated. A heavy top disc for guy rods and a short bull plug complete the Christmas tree. This top disc was designed for the four 1½-inch guy rods which serve as the main braces for the installation. The short bracing and reinforcing between individual connections were designed for this particular well and make the lighter connections as strong as the more rugged fittings. The bracing between the upper and lower three-inch series of flow lines is simple and strong. Three-inch bull plugs are used on the outside of the tee above the flow bean, and around these plugs are end clamps for the three-inch cross arms. One and one-fourth-inch vertical tie rods are used in pairs for these three-inch cross arms. Below the top four-inch valve and immediately above the upper cross for the top section of three-inch flow lines is the upper clamp for the main vertical tie rods. Below the intermediate four-inch valve and above the cross supporting the lower section of three-inch flow lines is the lower clamp for the main vertical tie rods. All main vertical tie rods are 1½ inches in diameter. Both the upper series of three-inch flow lines and the lower four-inch section are braced with horizontal tie rods. The heavier four-inch section has a tie rod clamp on either side and between the valves and is braced with one and one-half-inch horizontal tie rods. The three-inch tie rod clamps on the double series of tubing lead lines are also between the valves on either side and are held by 1¼-inch horizontal tie rods.

Although the valves in this assembly were tested to 6000 pounds by the manufacturer, Shell Oil Company conducted tests of its own. All parts were assembled and subjected to a hydrostatic pressure of 4000 pounds. The Christmas tree was assembled in Los Angeles, tested and taken to Kettleman Hills intact.

The Christmas tree at Superior Oil Company's Huffman 2 represents the most simple design yet originated at Kettleman Hills, but its success on one of the largest producers on the North Dome speaks well for its efficiency. The orgiinal assembly included about 40 per cent more valves and connections than the present simplified installation has. This Christmas tree presents a very tailored appearance and proves that a well may be held under control with a limited number of lines.

Only Six Valves Used

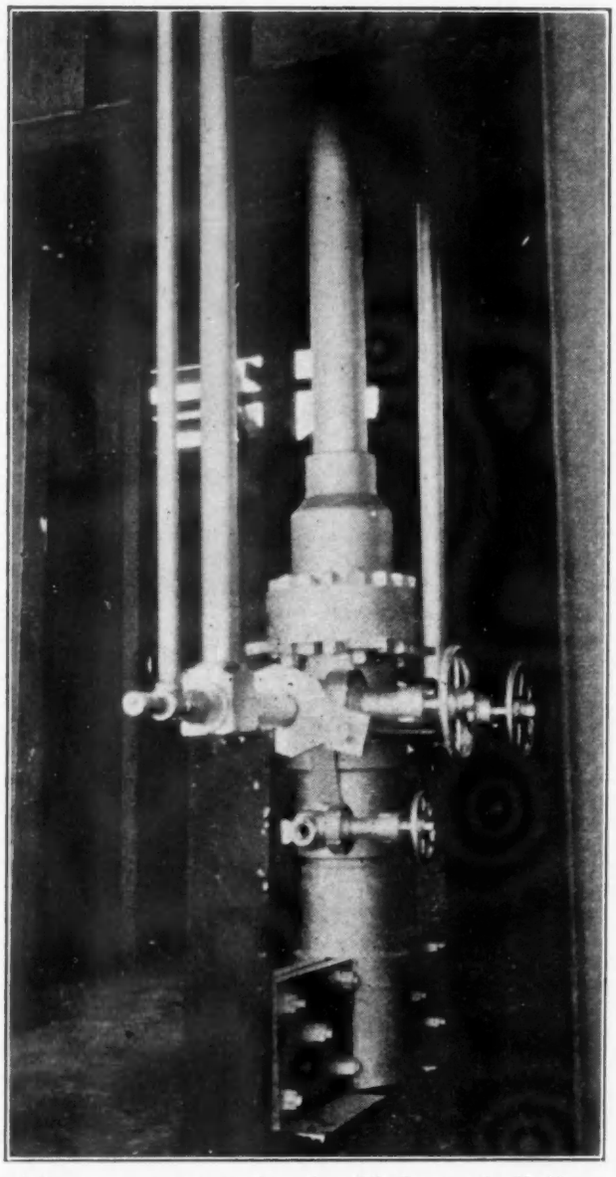
Only six valves are used above the derrick floor on Huffman 2. The original installation included 11 valves, but five were removed. The eight-inch bottom valve controls the flow from the main flow string to the four four-inch valves on the lead line. Two of these four-inch valves are used on each side of

the cross and between the beans and the cross. An eight-inch valve and a bull plug on top of the main flow lines complete the assembly. The absence of elaborate bracing is conspicuous, with only two short wooden beams being used under the four-inch valve assemblies.

The two lower beans above the derrick floor do not properly belong to the upper assembly, since they lead up from below. These four-inch lines lead up from the control head in the cellar and are the outlets for the space between the 9⅝-inch water string and the flow string.

The total height of this Christmas tree above the derrick floor does not exceed six feet. It does not offer the flexibility that other installations possess, but it is as efficient as any, as long as the well remains under control. A single mishap below the derrick floor may render a dozen flow lines above the floor useless; so it is possible that one series of flow beans on the Christmas tree may be as safe as the one flow string below.

The Christmas tree assembly at Union Oil Company's King 1 might be termed a compromise between Superior Oil Company's Huffman 1 and Shell Oil Company's more elaborate installation previously described. This does not mean that Union Oil Company copied any of the ideas used at either well, but rather that the number of valves and fittings strikes an intermediate point between those used at the wells previously described. King 1 was one of the largest completions in the field and actually flowed for a time at a rate of above 20,000 barrels.



Cellar arrangement at Superior Oil Company's Huffman 1. The two four-inch outlets lead out from between the water string and flow string

Four-inch and eight-inch valves are used exclusively on this well, the first series of four-inch valve combinations leading away from the cross below the first or lower eight-inch valve. The upper series of four-inch valves and flow beans lead away horizontally above the lower eight-inch valve, and just below one of the same size. For convenience each of the four inner four-inch valves are used without wheels, but this part of the valve is available in case of emergency.

The bracing on King 1 is most complete and includes heavy horizontal and vertical tie rods. A heavy top plate is used for holding the guy rods in place, while heavy plates and horizontal tie rods are used to brace the four-inch lines leading to the flow beans.

Other Christmas tree assemblies are perhaps as interesting as those described. Continental Oil Company's Elliott 12-8 was one of the best equipped wells on the North Dome. It had a greater variety of fittings than any other completion and was one of the most expensive installations ever used on the North Dome. Associated Oil Company's Whepley 1 was equipped with an elaborate Christmas tree, while Standard Oil Company has developed a fairly uniform design of its own.

The trend is toward simplicity, but the fear that pressures could be controlled only with difficulty was enough to lead to new types of valves, flow bean and general fitting assembly of unusual strength. The field's contribution to production technique includes some of the best Christmas tree assemblies ever designed.

Acetylene Association to Meet In Chicago, November 11, 12, 13

Chicago.—A feature of the thirty-second annual convention of the International Acetylene Association, to be held here at the Congress hotel, November 11, 12 and 13, will involve the most comprehensive discussion ever given of methods for testing oxy-acetylene welded joints.

On November 12 outstanding authorities on welded piping will discuss welded heating, water, and air-conditioning systems; overland oil and gas lines; and the use of special fittings for welded installations.

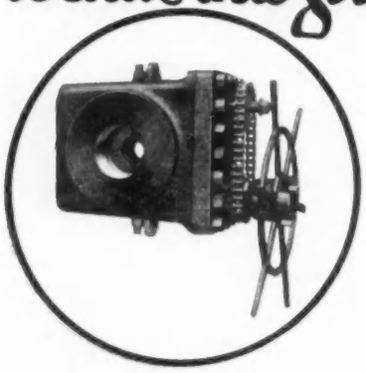
The "Chemical Industry Session," November 13 at 10:00 a. m., will deal with high-pressure, high-temperature chemical piping; methods of welding the new corrosion-resisting alloys; and welded power piping. Charles Gorton, chairman of the uniform boiler law society, will explain the use of gas welding under the revised A. S. M. E. boiler code.

The Oil Equipment and Engineering Exposition has been incorporated under the name of International Industrial Expositions, Limited, with E. G. Lenzner as president and general manager. There will be no change in the management and the permanent and annual oil expositions will be conducted under the original name.

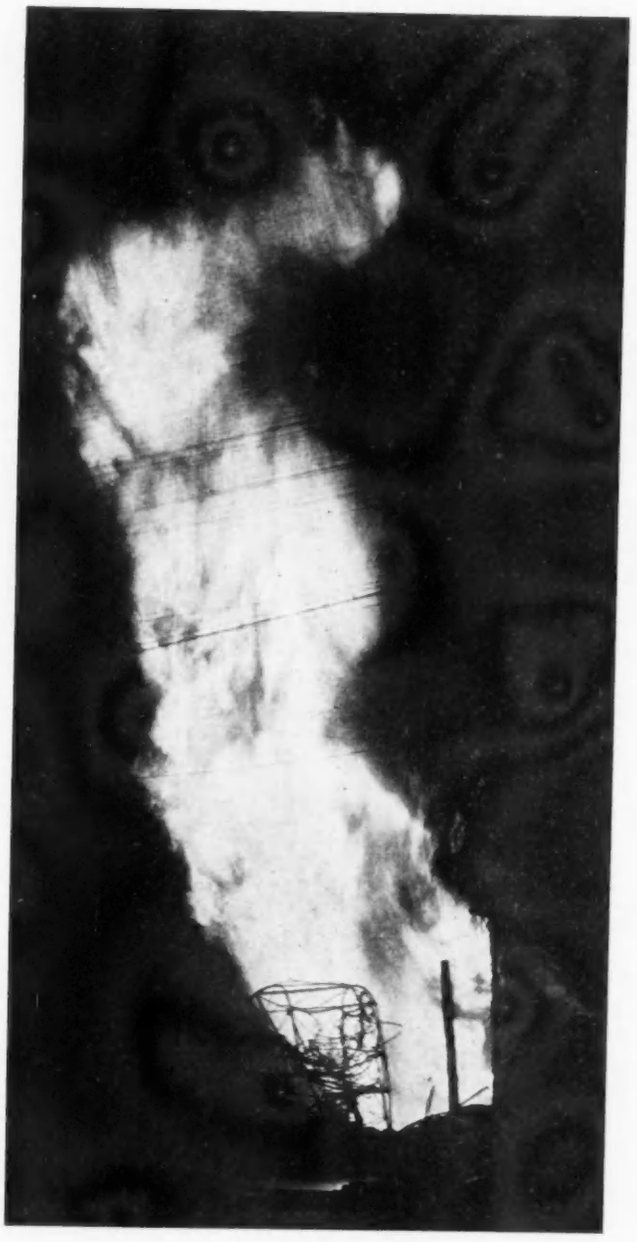
Preparations for the Third Annual Oil Equipment and Engineering Exposition which will be held in Los Angeles from February 1 to 7, 1932, are already well under way with several new features scheduled to add value to the show. Two derricks are in place on the grounds.

ISN'T IT BETTER & CHEAPER

to shut this gate



than to RISK *this!*



THE SHAFFER CELLAR CONTROL GATE is a simple device, which is easily operated from outside of the derrick by means of a hand-wheel. It gives the operator full protection whether there is drill pipe in the well or not. Positive in action, it is a complete unit in itself, that can be adapted to shut off around drill pipe, casing, or can be made into a master gate by using a complete shut-off arrangement.

We also have a low-priced line of preventers for lower pressures. Write for further information.

Why risk a catastrophe like this when adequate equipment can be had at practically no cost? (Shaffer Blow-out Prevention Equipment can be moved from the well when completed and used on other wells.)

SHAFFER TOOL WORKS
BREA CALIFORNIA

OKLAHOMA CITY and HOUSTON
Fluid Packed Pump Co.—Mid-Continent
FOREIGN—Oilwell Supply Co.

SHAFFER HIGH PRESSURE EQUIPMENT

New Equipment for the Field

MACHINERY - TOOLS CATALOGS - BOOKS

▼ ▼ ▼

Cementing Device

HALLIBURTON OIL WELL CEMENTING COMPANY

Halliburton Oil Well Cementing Company, Tulsa, is prepared to furnish a cementing device which not only allows the continuous cementing of a combination string of casing (which is a string consisting of casing with perforated screen or liner on the bottom, the liner being the same diameter as the casing), but provides a simple means for washing the perforated liner or screen to bottom prior to cementing.

This washing feature does away with the necessity for a wash pipe and consists of an inner lining material to cover the perforations to allow circulating around the bottom of liner or screen perforations when running casing. The lining material is cut and washed out of the casing immediately after the cementing plugs are drilled, and is so treated as to prevent clogging of the perforations.

The cementing feature consists of ports through which the cement passes, the ports being closed until the cement reaches them, at which time they are opened by means of the cementing plugs.

Among the advantages for this device, besides allowing the running of both liner and casing in a full sized hole and the elimination of a wash pipe which has many disadvantages, is that it affords a simple means for continuous running and cementing of the combination string and thorough washing of the screen to bottom. This eliminates danger of the perforations being plugged by cavings.

Straight Line Bailing Machine

HART BROTHERS MACHINE COMPANY

Hart Brothers Machine Company, Clarksburg, recently has put on the market a straight line bailing machine suitable for mounting on an oil field wagon when used in mountainous country or for mounting on an automobile truck when used in prairie country.

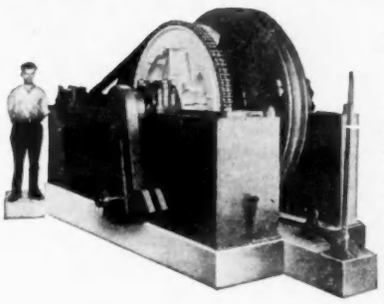
The machine is mounted on a seven-inch channel iron frame, 13 feet long and two feet wide, allowing ample space on each side for hauling mast and bailer. It is powered with a Model A Ford 24 horsepower, four cylinder motor developing 40 brake horsepower at 2200 r.p.m. It is equipped with a starter motor, three speed transmission and clutch, and has an eight to one speed reducer with cut steel gear and pinion mounted on roller and ball bearings.

The drum is made with six-inch pipe with cast iron ends and a splitter wheel and is capable of spooling 4000 feet of three-eighths-inch wire line. The spudding arm is semi-steel with adjustable pin, having a maximum stroke of 22 inches.

Detailed information on the straight line bailer may be obtained by writing Hart Brothers Machine Company, 442 Broadway, Clarksburg, West Virginia.

Rig Front

O. C. S. MANUFACTURING COMPANY



O. C. S. Manufacturing Company, Coffeyville, Kansas, announces production of Type 95 O. C. S. Universal rig front, which is inclosed and self lubricated. The manufacturer claims the front is capable of pumping wells from 7400 feet.

Complete information on Type 95 O. C. S. rig front may be obtained by writing O. C. S. Manufacturing Company, Coffeyville, Kansas.

Oil and Gas Burner

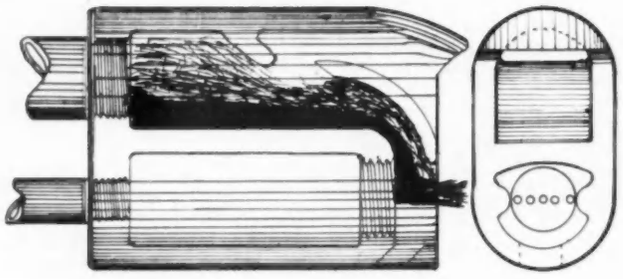
BULLUM BURNER COMPANY

Bullum Burner Company, Overton, Texas, has introduced into the East Texas field a burner of radically new design which burns oil or gas at high or low pressure or a combination of oil and gas without a change of equipment.

The outstanding feature of this burner is that the mixing and atomizing process takes place in open air, at the point of combustion, where unlimited oxygen is available. The manufacturers state that with fuel and atomizer properly regulated, one standard burner quickly heats a boiler of any capacity, up to 125 horsepower, to any desired degree.

The burner is a single casting with a one-inch fuel line

Hart Straight-Line Bailing Machine



Side view Front

Bullum Burner

entering at the top and a one-half-inch steam line entering the bottom. Near entry of the fuel opening there is a lip, an integral part of the burner, which throws the flow of fuel (in the case of oil and gas being used together) downward. Gas, through a separation process, rises through a vent, while the oil is turned down over the steam line to give an equalized flow, and the gas passes out a top vent in front, over the oil. The half-inch steam line has five one-eighth-inch holes, for equal distribution of pressure. Oil and gas, as fuel, is separated in the burner to the extent of preventing, or at least minimizing, vibration.

Two lugs, on the sides of the opening, centralize the oil flow. A hole under the mouth of the steam line vacuums in any possible waste oil.

The burner, to a certain extent, is automatic; by opening the steam valve it creates back pressure against the inflow of fuel, thereby regulating itself on lease boilers, because as steam pressure goes down the back pressure is less, and more fuel is let in.

The manufacturers will supply complete information on the new burner upon request to P. O. Box 151, Overton, Texas.

Hydraulic Rotary Drill

W. L. DIEHL

W. L. Diehl, Houston, recently has developed a hydraulic rotary drill which drilled 6½ feet of surface clay with a 13¾-inch bit at Hoskins Mound in a recent speed test.

This tool utilizes the pressure of the drilling mud to rotate the bit by means of a geared down turbine. The first model tested rotates the bit at about 200 r.p.m., but the designer plans to increase this speed to 500 r.p.m. for drilling light formations.

A locking device inside the tool is provided which automatically locks the bit to the drill stem if the resistance on the bit becomes too great for the turbine to pull through. All bearings throughout the tool are ball or roller, immersed in oil, and the wear is limited to the turbine proper. According to Mr. Diehl, after 50 hours use, there was no appreciable wear evidenced on the turbine blades.

Detailed information on the Diehl hydraulic rotary drill may be obtained by writing W. L. Diehl, 1716 Jackson Street, Houston, Texas.

Diehl Drill

Semi-Steel Drilling Gate Valve

WESTCOTT VALVE COMPANY

Westcott Valve Company, East St. Louis, recently has put on the market a semi-steel drilling gate valve designed particularly for use in East Texas and with economy, strength and safety as main features.

The new valve is designed for all pressures of 1000 pounds and under, and is made of a superior metal which costs less than the steel used in most valves, yet is strong enough to do the work safely, according to the manufacturer. The valve has longer threads, hard steel seat rings, screwed in, solid steel discs, and stainless steel stem.

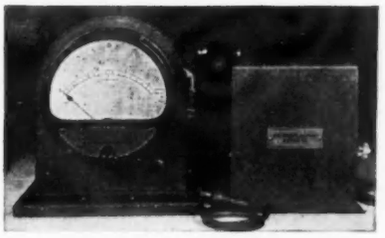
Complete information on the semi-steel drilling gate valve may be obtained by writing Westcott Valve Company, East St. Louis, Illinois.

Remote Indicator

PITTSBURGH EQUITABLE METER COMPANY

Pittsburgh Equitable Meter Company, Pittsburgh, announces a means for remote indicating and recording through the use of the Telemco system. The engineering and experimental laboratories of this company have perfected the system to the point where it is particularly suited to the gas industry.

The purpose of the remote indicating device is to measure or indicate a quantity or magnitude, such as gas pressure, water level, oil pressure, energy, flow and the like, at a point remote from the locality at which such a quantity or magnitude exists.



Pittsburgh Remote Indicator

The Telemco system consists of a transmitter and a receiver. The transmitter to be placed where the measurement is taken and the receiver where this measure is to be indicated or recorded. Only two connecting wires are needed between the transmitter and receiver, and in many cases where the distance is not too great a single wire with ground return may be used. The current used, 10 milliamperes at 35 volts, is small. Power is required only at the receiving end.

It is impossible for sparks to occur at the transmitter since there are no brushes or contacts.

There is practically no limit to the distance over which the system may be used.

Since the device consists of only a vacuum tube, a milliameter, a fixed resistance, a variable inductance and a static voltage regulator, it is extremely simple, rugged and reliable. It is not influenced by currents which might be induced in the line by extreneous influences, such as nearby high tension transmission lines.

Complete information on the remote indicator and recorder may be obtained by writing Pittsburgh Equitable Meter Company, Pittsburgh, Pennsylvania.

Manufacturer and Supply Dealer Notes

American Rolling Mill Company, Middletown, recently issued a bulletin titled "Designing Pipe Lines for Pressure" to assist engineers engaged in such work as the title refers to.

A copy of the bulletin may be obtained by writing American Rolling Mill Company, Middletown, Ohio.

Chapman Valve Manufacturing Company, Indian Orchard, has designed and put on the market a complete line of forged steel globe, angle and check valves.

A pamphlet describing the line may be obtained by writing Chapman Valve Manufacturing Company, 203 Hampshire Street, Indian Orchard, Massachusetts.

Sullivan Machinery Company, Chicago, announces additions to its line of vertical single acting compressors, in new models, and new capacity ranges.

"WL-1" belt driven and "V" belt driven and "WL-11" direct motor driven compressors, are single cylinder, single acting units, distinguished by the use of heavy duty ball bearings for mounting on the crank shaft and also by their compactness, simplicity, and substantial construction. The cylinder is cast separate from the frame, and the head, containing the inlet and discharge valves (of the Sullivan "wafer" type) may be attached in any one of four horizontal positions, to secure convenience in piping connections.

These units provide displacement ranges from 27 to 87 cubic feet per minute. Direct connected units employ flexible external and internal gear couplings between the compressor flywheel and the motor shaft. Sullivan "sweep control" unloading system is employed. These compressors are designed for pressures up to 125 pounds per square inch.

The Sullivan "WL-2" and "WL-4" belt driven vertical units are available in two-cylinder and four-cylinder models, respectively, and are similar to the direct connected two-cylinder and four-cylinder units "WL-22" and "WL-44", already available. These units may also be driven by "V" belts from any desirable form of power unit, and in such cases are mounted on a sub-base which supports the compressor, motor, and V belt drive. Capacities range from 119 to 348 cubic feet free air per minute. The four-cylinder units are V type balanced design, the two pairs of cylinders being set at an angle of 90 degrees with a common crankshaft and only two cranks. This provides a very compact and short arrangement, and provides an important factor of balance. The use of four smaller cylinders instead of two large ones, permits the use of reciprocating parts which weigh only one-third as much as the same parts would weigh in a two-cylinder unit of equivalent capacity; while the light weight of the small moving element holds to a minimum, the force tends to cause vibration.

Catalog 88-B, four pages, describes the single cylinder "WL-1" and "WL-11" compressors. Catalog 88-C, four pages, describes the "WL-2" and "WL-4" belt driven compressors.

A copy of the catalogs may be obtained by writing Sullivan Machinery Company, 400 North Michigan Avenue, Chicago, Illinois.

International-Stacey Corporation Buys Stacey Manufacturing Company

Columbus, Ohio.—International-Stacey Corporation with headquarters at Columbus, Ohio, announces the purchase of all the stock of Stacey Manufacturing Company of Cincinnati, Ohio.

Stacey Manufacturing Company, together with Stacey Brothers Gas Construction Company, which was recently purchased by International-Stacey Corporation, is one of the oldest and largest companies in the country devoted to the design and fabrication of gasholders and other high pressure tankage. The operation of these two businesses in Cincinnati under the direction of International-Stacey Corporation will constitute one of the major industries of that city.

Col. Carmi Thompson, president; A. A. Ranshaw, vice president; H. M. Runkle, secretary and treasurer, and E. J. Baechle, assistant secretary and treasurer, will head the Cincinnati group, which will be known as Stacey Gas Construction Division of International-Stacey Corporation. Management will be directed from the executive offices in Columbus.

The organization reports that on the basis of present quotations for business, there will be need for the employment of an additional force of from 200 to 250 men at the Cincinnati plant.

The purchase of Stacey Manufacturing Company ends a

Col. Carmi Thompson, chairman of the board, International-Stacey Corporation, left, and Harry M. Runkle, president, on the Board Walk at Atlantic City during the recent gathering of American Gas Association

controversy which has been going on for many years and closes the matter satisfactorily to both sides. The settlement means that the two Stacey companies in Cincinnati will operate together.

It will be recalled that a short time ago the International Derrick and Equipment Company of Columbus entered into a reorganization with Stacey Engineering Company, the new organization being known as the International-Stacey Corporation. This reorganization included P. H. & F. M. Roots Company and Connersville Blower Company, Inc., of Connersville, Indiana, Wilbraham-Green Blower Company, Pottstown, Pennsylvania, including the Hayton line of centrifugal pumps and blowers, and the Stacey Brothers Gas Construction Company of Cincinnati. The entrance of Stacey Manufacturing Company into the organization completes the properties of the International-Stacey Corporation which at its plants in Columbus and Marietta, Ohio, Beaumont, Texas, and Torrence, California, manufactures a full line of machinery for the development and production of oil, gas and artesian well products. This line of equipment is one of the most complete manufactured by any concern in the world, ranging from equipment for the shallowest operations to the deepest undertaken.

The International-Stacey Corporation also manufactures a complete line of galvanized structural equipment for railroads, aviation and other industries. It is the manufacturer of one of a line of standard steel buildings, steel poster panels and supplies a full line of pole hardware for power companies.

Roots-Connersville-Wilbraham Division of International-Stacey Corporation manufactures a complete line of rotary positive blowers, gas pumps, boosters, exhausters, meters, cycloidal pumps, liquid pumps and vacuum pumps for use in every industry. In its Hayton centrifugal department Roots-Connersville-Wilbraham Division of International-Stacey Corporation manufactures a complete line of centrifugal pumps and blowers for all applications for which centrifugal units may be employed.

Stacey Gas Construction Division of the International-Stacey Corporation of Cincinnati manufactures, besides its line of telescopic gas holders and high pressure "bullet" gas holders, purifiers, stacks, tanks, penstocks, etc., the new Stacey-Klonne Dry Seal Gas Holder which is an entirely modern development that has met with approval throughout the country. Stacey Gas Construction Division is at present erecting three large dry seal gas holders; one at Syracuse, New York, one at Reading, Pennsylvania, and one at Kalamazoo, Michigan.

With this purchase of Stacey Manufacturing Company at Cincinnati, International-Stacey Corporation also becomes one of the largest diversified units of the country. Its plants are strategically located and its products varied. The business of the company has been improving in most of its plants during the last 60 days and with the exception of one of the smaller units all of the companies which are now affiliated under the combination of International-Stacey Corporation have enjoyed a profit during each of the last 15 years.

The operations of International-Stacey Corporation this year have been very satisfactory and should improvement continue during the balance of the year commensurate with that now being enjoyed, it appears that the company will close its year with a satisfactory profit.

Lincoln Electric Company, Cleveland, manufacturer of Stable-Arc welding equipment and Linc-Weld motors, has been appointed general industrial distributors for Blackor, a super-abrasion-resistant facing.

Worthington Pump & Machinery Corporation, New York, has made several important changes in its staff during the past few weeks. Otto Nonnebruch, for four years chief engineer of the Diesel department of I. P. Morris and De La Verne, Incorporated, has been made special sales representative with headquarters at New York.

H. G. Wood, formerly assistant manager of the New England division of Westinghouse Engineering and Manufacturing Company, has been appointed electrical sales engineer of the Worthington organization.

Champion and Barber Complete Year's Expansion Program

A twelve months' expansion program, featured by the securing of new products, has recently been completed by the firm of Champion and Barber, Inc., manufacturer of Champion All-Steel Rotary Hose.

According to Frank Champion, Jr., and Dewey Barber, the principal additions to their present line are two products of a radically different nature than those previously handled, namely, a protective coating and a cleaning compound.

The first of these products is known as Liquilox, "The Coating that Protects." It is manufactured by the Liquilox company, a Los Angeles Concern, and according to its manufacturers, this product is resistant to acids, salts, alkalies, barnacles and termites.

The other Champion-Barber addition is a line of industrial compounds known as "Cee-Bee: Cleaning Compounds Supreme." According to the manufacturers, these compounds contain no acidic preparations and are harmless to the user but "death to dirt, grease or any foreign matter."

Complete data and information on the above products may be secured by writing Champion and Barber, Inc., 576 Subway Terminal Building, Los Angeles, California.

IT defied ELIMINATION and WON!

The element of elimination did not affect the Champion *Improved* All-Steel Rotary Hose!

Today, more oil men are using this hose than ever before . . . because it has no superior . . . no substitute.

Once you use it, you'll use no other rotary hose.

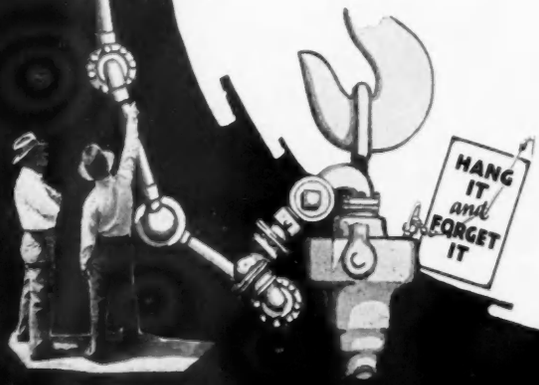
Champion & Barber
INCORPORATED

576 Subway Terminal Bldg.
LOS ANGELES, CALIF.
Telephone Michigan 9108

Mid-Continent Distributors
BAILEY & BECKER CO.
210 Tulsa Bldg., Tulsa, Okla.

Gulf Coast Distributors
BETTIS SALES CO.
917 Merchants and Manufacturers Bldg., Houston, Texas

Export Distributor
W. S. FELLOWS
39 Cortlandt St., New York, N. Y.



CHAMPION
ALL-STEEL *improved* ROTARY HOSE
["ONLY the FIT SURVIVE"]

There are more feet in a crooked hole . . . . than in a Straight One

. . . and each extra foot costs Money

The presence of crookedness in a hole is not indicated by any clear cut evidence recognizable from drilling operations . . . until trouble starts. Even then the major portion of the grief falls on the owner *after* the well has been brought in.

No wonder well owners are today insisting that the hole be surveyed *as it is drilled*. No wonder the SYFO Clinograph is daily increasing in popularity. This remarkable device affords a direct and accurate record that is easily obtained *without the use of dangerous acids* . . . a record that is on paper and can be filed for reference.

Write for descriptive literature and rates.
Also makers of the SURWEL Clinograph.

SPERRY-SUN WELL SURVEYING CO.
1608 WALNUT STREET, PHILADELPHIA, PA.

Dallas, Texas: 1501 Caruth St.
Tulsa, Oklahoma: 402 Petroleum Bldg.
Houston, Texas: 1417 Esperson Bldg.
Los Angeles, Calif.: 415 Petroleum Securities B'g.
Tyler, Texas: Bell Building
Calgary, Alberta, Can.: Room 1, Central Block

The SYFO *Clinograph*

"PURTY DURN SLICK!"

An East Texas farmer came up to a well the other day and complained that the driller on an adjoining lease had tunneled under his land and was taking his oil. "Purty durn slick," he said, "the way those fellows turned that well under my lease."

The old gentleman thought they might have done it purposely, not knowing that with many bits it is impossible to drill a straight hole. When they use an APPLEMAN BIT an astonishingly straight hole can be counted on every time. "Purty durn slick," we say!

WATER COURSES lead direct to cutting edge, producing maximum cooling effect.

SELF SHARPENING EDGES due to concavely formed blades.

SIDE WALL CUTTING: Cuts side wall as it drills. Accomplishes full round hole and well prepared side wall. Holds gauge longer. Reaming rarely necessary.

STRAIGHT HOLE: Less weight is needed to feed the bit. Drillers who use APPLEMANS for the first time are astounded at how straight a hole they can drill.

WRITE FOR COMPLETE INFORMATION

B. K. APPLEMAN
BEAUMONT, TEXAS

Squeaks from the Bull Wheel

A colored man got his nerve together and took a flight in an airplane. As he climbed out of the ship on its return to the field, he turned to the pilot and said:

"Sur, ah have to thank you for both dem rides."

"What are you talking about?" said the aviator. "You had only one ride."

"No suh," returned the passenger, "I done had two—mah first and mah last."

Husband—There's a gentleman in the drawing room who wants to marry one of our daughters. He is a wine merchant.

Wife—A wine merchant? Thank goodness; he will be sure to select one of the older brands.

Willie—"Paw, does bigamy mean that a man has one wife too many?"

Paw—"Not necessarily, my son. A man can have one wife too many and still not be a bigamist."

Goldie O'Brien dislikes very much eating away from home. He had occasion recently to order a veal steak in a cafe, and when it was brought to him he disliked the appearance of the serving.

"Are you certain that is a veal steak?" he asked the waiter.

"Mr. O'Brien," the waiter answered, "I used to be a butcher, and I would say that that piece of steak was following a cow not more than two weeks ago."

"You're probably right about that, mister, but not because it was hungry."

—O'Bannon's Between Calls.

Customer: "I don't like the looks of that haddock."

Fish Dealer: "Lady, if it's looks you're after, why don't you buy a goldfish?"

Jones—"How do you spend your income?"

Smith—"About 30 per cent for shelter, 30 per cent for clothing, 40 per cent for food and 20 per cent for amusement."

Jones—"But that adds up to 120 per cent."

Smith—"That's right."

Kjerulf—"You mean to say you were not at your own daughter's wedding? Where were you?"

Biscz—"I was looking for a job for the groom."

An Army junior had a quiz in science. The question was: "Define a bolt and a nut and explain the difference, if any." The boy wrote:

"A bolt is a thing like a stick of hard metal such as iron with a square bunch on one end and a lot of scratching wound around the other end. A nut is similar to a bolt only just the opposite, being a hole in a little chunk of iron sawed off short with wrinkles around the inside of the hole."

"Hadn't you better go and tell your father?" asked the motorist of the farmer's boy, who stood looking at the load of hay upset in the lane by a colision.

"He knows," replied the boy.

"Knows? How can he know?"

"He's under the hay."

In an English political meeting, one of the candidates patriotically orated: "I was born an Englishman, and I have lived an Englishman, and I hope I shall die an Englishman."

From the back of the hall, in an unmistakable accent, came the question: "Mon, hae ye no ambeetion?"

"What is an outboard motor?"

"Merely a row-boat with athlete's phut."

As the magnificent new liner steamed into the port, a grimy little coal barge shot across her bows.

The officer of the watch on the liner picked up his megaphone.

"Hi, there," he yelled, "get that dirty little tub out of the way."

A small man standing on the barge stuck out his jaw aggressively.

"Are you the captain of that ship?" he demanded.

"No," returned the officer, puzzled.

"Then dashed well speak to your equals," snapped the little fellow. "I'm the captain of this one."

"My son is at college and I'm the one getting the education."

"Yes, and my daughter's at finishing school and I'm the one getting finished."

"Doctor, isn't it true that we can live without the appendix?"

"Yes, the patient can—but to surgeons it is indispensible."

An' I tell yer, all them millionaires' money is tainted—all of it.

Ow d'ye mean tainted?

Well, 'taint yours, and 'taint mine, is it?

Ma, teacher insulted your mother today!

Why, what did she say?

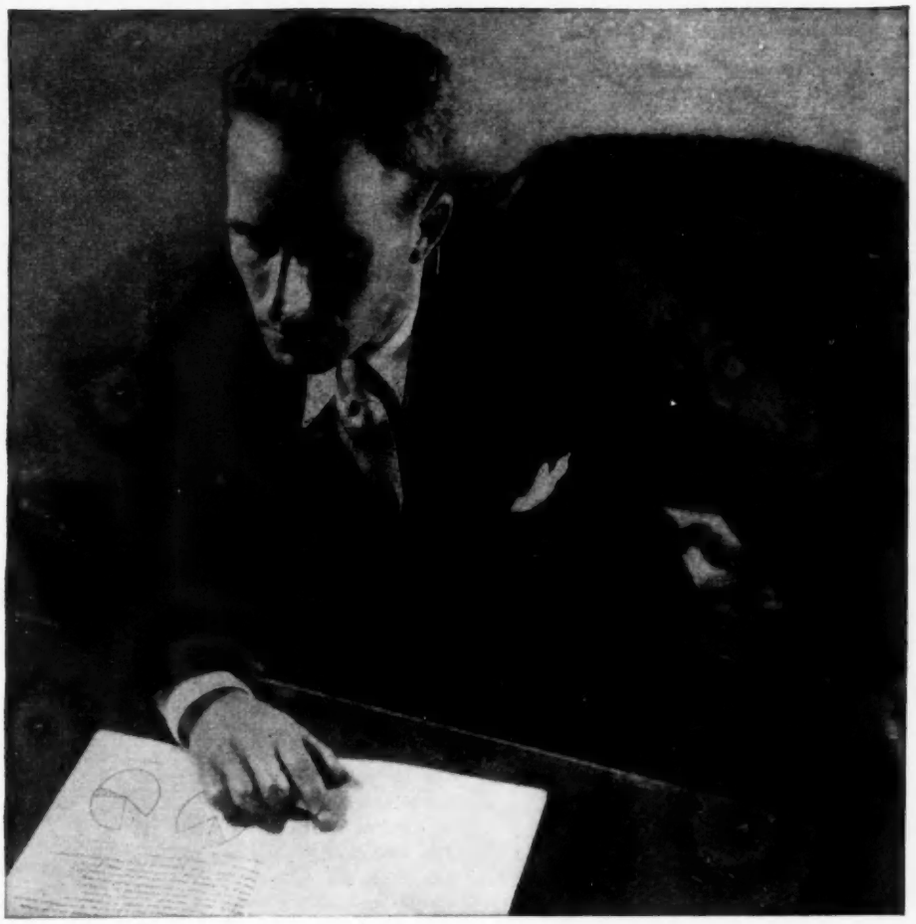
She said my "grammar" was terrible.

"What is a bathing beauty?"

"One who hanks her clothes on shapely limbs but does not go near the water."

In defense of the • BUDGET

. . . he faces management's demand for PROOF of full value per dollar



Somewhere, in an executive office, a director of advertising rises in his chair. The budget—*his* budget—is questioned . . .

Vigorously he moves in defense of media, of space requirements, of insertion timing.

And yet, behind his defense, how certain is he of the underlying truths about the raw material his budget buys? About circulation volume, circulation values, the facts of circulation distribution?

Positively, accurately he knows these things if his budget covering advertising space calls only for publications of audited circulation.

He knows—and business accepts—the indisputable character of circulation facts from the Audit Bureau of Circulations. The full story of circulation practice is given freely and frankly by A. B. C. publications. They open up everything to the A. B. C. auditors and the Bureau in turn transmits the facts to you.

Make sure that your budget, this year above all years, rests upon *undebatable* values, upon *audited* circulations. Success or failure in many a campaign may hang on the extra margin of value that Bureau information can bring.

Take a share, now, in the budget-guarding work of the A. B. C. Help, through Bureau membership, to direct the more than 60 trained traveling auditors who cover almost every important publication in America.

The distinguished group of advertisers, agencies and publishers who make up the Audit Bureau of Circulations invites you to join. Write today for the full, interesting facts about Bureau membership.

An advertisement by the
AUDIT BUREAU OF CIRCULATIONS
Executive Offices • • • Chicago

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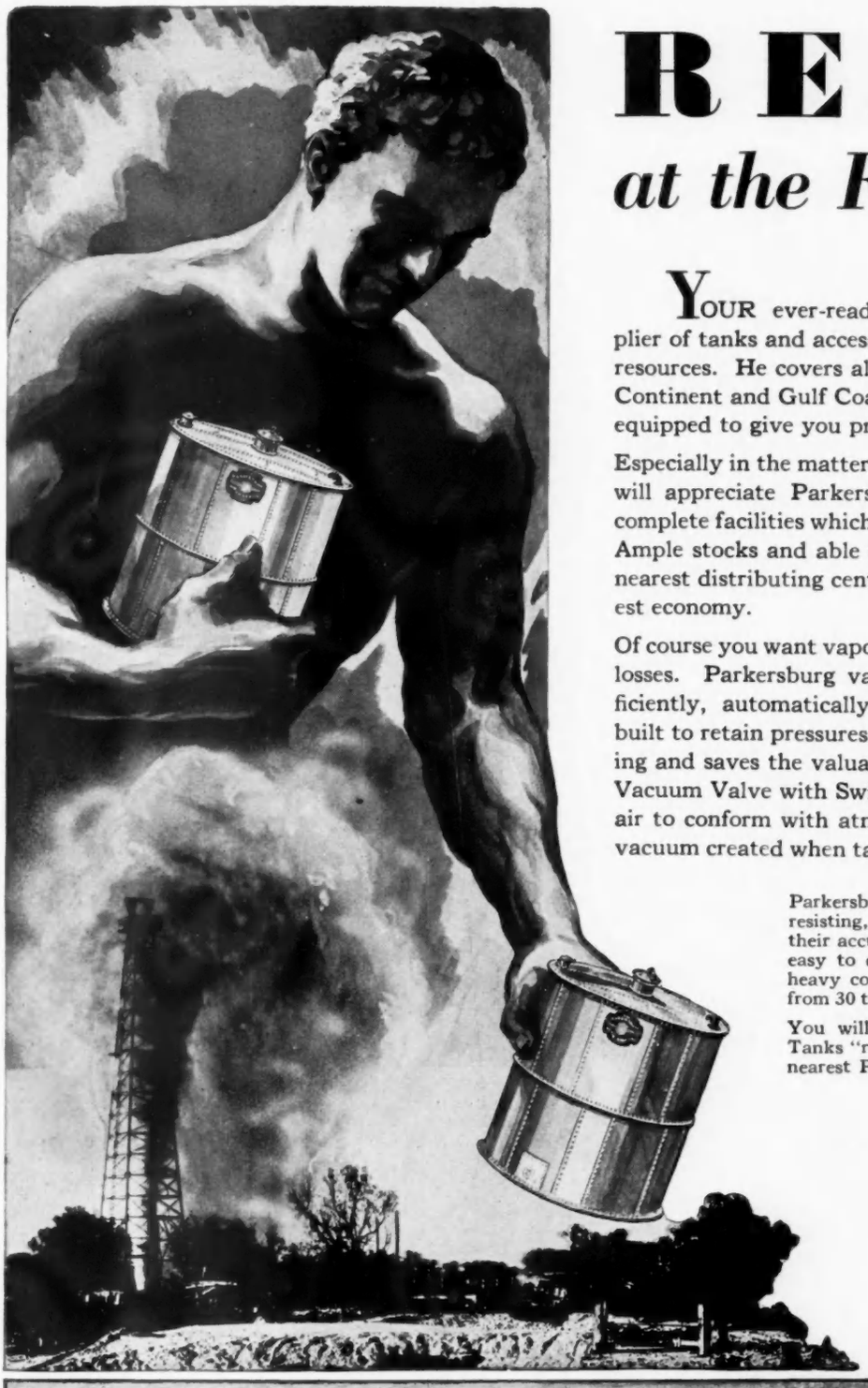

READY
at the First Strike

YOUR ever-ready servant—this gigantic supplier of tanks and accessories typifies Parkersburg's field resources. He covers all the principal fields in the Mid-Continent and Gulf Coast districts—ever watchful, ever equipped to give you prompt, faithful service.

Especially in the matter of urgent delivery of Tanks, you will appreciate Parkersburg's dependable quality and complete facilities which extend wherever oil is produced. Ample stocks and able erection crews are ready at your nearest distributing centers for speedy service and greatest economy.

Of course you want vapor-tight tanks to save evaporation losses. Parkersburg vapor-pressure fittings do this efficiently, automatically. The Pressure Relief Valve, built to retain pressures up to 16 ounces, reduces breathing and saves the valuable light ends of the crude. The Vacuum Valve with Swing Check adjusts the amount of air to conform with atmospheric changes and to relieve vacuum created when tank is emptied.

Parkersburg Bolted Tanks of Corrosion-resisting, Copper-bearing Steel are known for their accurate fabrication which makes them easy to erect—portable. Furnished with a heavy coating of aluminum in sizes ranging from 30 to 10,000 barrels.

You will always find Parkersburg Quality Tanks "ready at the first strike." Phone the nearest Parkersburg Man and prove it!

THE PARKERSBURG RIG AND REEL CO.

TRADE MARK REG.

This Seal of Quality and Service on Parkersburg Equipment is Your Guarantee.

QUALITY AND SERVICE

From DERRICKS **THE PARKERSBURG RIG AND REEL CO.** *To* TANKS

PARKERSBURG, W. VA.

NEW YORK • TULSA • FT. WORTH • HOUSTON

BRANCHES IN ACTIVE FIELDS

CABLE ADDRESS "PARIGREEL"

SUPERIOR PERFORMANCE

. . . is True Economy

Use HUGHES ROCK BITS

Operators, contractors and drillers throughout the Rotary fields of the world can testify to the fast, safe and economical performance of Hughes Rock Bits and Cones.

"Sold by Supply Stores Everywhere"

HUGHES TOOL COMPANY

Service Plants:
Los Angeles, Calif.
Oklahoma City, Okla.
Midland, Texas

Main Office and Plant:
HOUSTON
TEXAS

Export Offices:
Woolworth Bldg.,
New York City